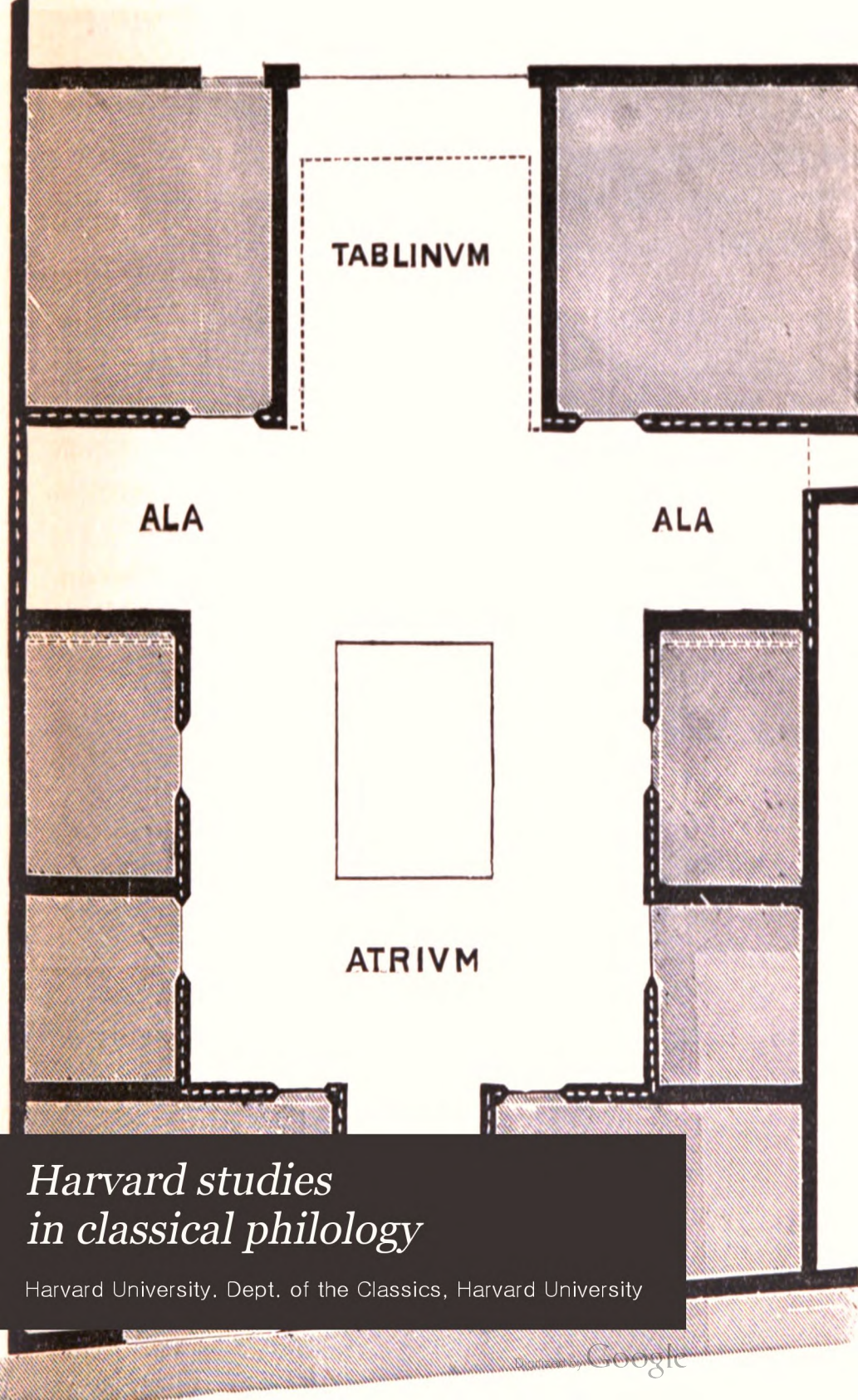

This is a reproduction of a library book that was digitized by Google as part of an ongoing effort to preserve the information in books and make it universally accessible.

GoogleTM books

<http://books.google.com>





TABLINVM

ALA

ALA

ATRIVM

*Harvard studies
in classical philology*

Harvard University. Dept. of the Classics, Harvard University

HARVARD COLLEGE
LIBRARY



FROM THE LIBRARY OF
ALBERT ANDREW HOWARD
POPE PROFESSOR OF LATIN

THE GIFT OF HIS SON
HERMANN HAGEN HOWARD
Class of 1916

RECEIVED OCTOBER 15, 1929

HARVARD STUDIES

IN

CLASSICAL PHILOLOGY

*EDITED BY A COMMITTEE OF THE CLASSICAL
INSTRUCTORS OF HARVARD UNIVERSITY*

VOLUME I

BOSTON, U.S.A.

PUBLISHED BY GINN & COMPANY

LONDON: GINN & COMPANY
57 & 59 LUDGATE HILL

LEIPSIC: OTTO HARRASSOWITZ
QUER STRASSE 14

1890

Price, \$1.00; 4s.; 4 M.

Δ

Philol 79.2 (1)

HARVARD COLLEGE LIBRARY
FROM THE LIBRARY OF
PROF. ALBERT ANDREW HOWARD
OCT. 15, 1929

TYPOGRAPHY BY J. S. CUSHING & CO., BOSTON, U.S.A.
PRESSWORK BY GINN & CO., BOSTON, U.S.A.

5304
5117
7.22

PREFATORY NOTE.

THESE Studies are published by authority of Harvard University, and will be contributed chiefly by its instructors and graduates, although contributions from other sources will not necessarily be excluded. The publication is supported by a fund of \$6000, generously subscribed by the class of 1856. A volume of about 200 pages will be issued yearly.

JAMES B. GREENOUGH,	}	EDITORIAL COMMITTEE.
FREDERIC D. ALLEN,		
JOHN WILLIAMS WHITE,		

CONTENTS.

	PAGE
THE FAUCES OF THE ROMAN HOUSE	1
By James B. Greenough.	
DE IGNIS ELICIENDI MODIS APVD ANTIQVOS	13
Scripsit Morris H. Morgan.	
ON THE ORIGIN OF THE CONSTRUCTION OF οὐ μή WITH THE SUBJUNCTIVE AND THE FUTURE INDICATIVE	65
By William W. Goodwin.	
ON SOME DISPUTED POINTS IN THE CONSTRUCTION OF ἔδει, χρῆν, ETC., WITH THE INFINITIVE	77
By William W. Goodwin.	
NOTES ON QUINTILIAN	89
By George M. Lane.	
SOME LATIN ETYMOLOGIES	93
By James B. Greenough.	
ON 'EGREGIUM PUBLICUM' (Tac. Ann. III. 70. 4)	107
By Clement Lawrence Smith.	
ON THE USE OF THE PERFECT INFINITIVE IN LATIN WITH THE FORCE OF THE PRESENT	111
By Albert A. Howard.	
PLUTARCH περὶ εὐθυμίας	139
By Harold N. Fowler.	
VITRUVIANA	153
By George M. Richardson.	
THE SOCIAL AND DOMESTIC POSITION OF WOMEN IN ARISTOPHANES	159
By Herman W. Haley.	
NOTES	187
INDEXES	195

THE FAUCES OF THE ROMAN HOUSE.

BY J. B. GREENOUGH.

SINCE the discovery and especially since the more careful study of the ruins of Pompeii, the Roman house has become pretty well understood in all its general features, and the facts are found to agree sufficiently well with the description given by Vitruvius. But as to the nature and position of the *fauces* mentioned by that author, there is still a difference of opinion. The word in this strict technical sense occurs only in one passage in Vitruvius, one in Gellius, and one in Macrobius; but there are some other uses of the word which throw light on its meaning.

The word was at first apparently supposed to refer to the entrance, as in Rode's Vitruvius (1800), and Wilkins' Vitruvius (1812). In an edition of *Vitruvius* of Simon Stratico (1828), it is referred to a passage from the *atrium* to the *tablinum* and from the *alae* to the *atrium*, apparently with a wrong idea of the position of these parts with reference to each other. Stieglitz, in the *Archaeologie der Baukunst* (1801), again refers it to the entrance; but the same author, in *Archaeologische Unterhaltungen* (1820), changes its position to some side passage. He says (p. 123): "The *fauces* which are sometimes taken as a passage from the *atrium* into the *tablinum*, and sometimes held to be a space connected with the *vestibulum*, were without doubt near the *tablinum*, on each side of it, since Vitruvius mentions them immediately after it, and determines their size in proportion to it. Moreover, he mentions the peristyle immediately after, which was on the back part of the building. The *fauces* cannot be supposed to be in the front part of the building, because, according to Vitruvius, in city houses one enters the *atrium* immediately from the front door; and the *vestibulum* in this case had no place, and so it would be superfluous to add still another part. This position of the *fauces* is clear also from the fact that according to the relation of the size (of the *atrium*) to that of the *tablinum* just so much space remains over alongside of it as is required by the *fauces*. Such passages were necessary," etc.

Mazois, *Le Palais de Scaure* (1822), takes the same view, referring to Vitruvius and Gellius as authority.

Pauly's *Encyclopædia* refers the *fauces* to the same two passages.

Becker's *Gallus* sets the *fauces* tentatively (Göll, in the Rev. Ed., 1880, with assurance), in the same position, on one or both sides of the *tablinum*, and leading from the *atrium* to the *peristyle*.

So, also, the last edition of Overbeck's *Pompeii*, and so, also, Nissen and Presuhn, as well as Marquardt in the *Privat-Alterthümer*.

In the *Annali dell' Istituto*, the memoirs of the Archæological Institute at Rome, 1859, p. 82, is a paper by one Sergio Ivanoff, which takes and maintains the ground that the *fauces* were at the entrance. His reasoning, which depends on an actual observation of the character of the entrance and of the side passages referred to, ought to have satisfactorily settled the question; but as the opposite view is still propagated as the prevailing one, it seems worth while to re-examine the question.¹

The passage in Vitruvius (Book VI.) bearing on the question is as follows: In Section 1 he has treated of positions and exposures; he now treats of proportions. Explaining that effect often requires a deviation from the exact normal proportions, he then continues, in Section 2:—

Igitur statuenda est primum ratio symmetriarum, a qua sumatur sine dubitatione commutatio. Deinde explicetur operis futuri locorum imum spatium longitudinis et latitudinis cuius cum semel constituta fuerit magnitudo sequatur eam proportionis ad decorem apparatus uti non sit considerantibus adspectus eurhythmie dubius. De qua quibus rationibus efficiatur est mihi pronuntiandum, primumque de cavis aedium uti fieri debeant dicam.

"Therefore the symmetrical relations must be determined from which the deviation may proceed. Then let the plan in length and breadth of the intended work be drawn, the size of which once having been settled may be continued by the details in symmetrical proportion, as to which I must show by what means it is to be secured; and first I will state how inner courts (*cava aedium*) ought to be built."

¹ Since this article was written (Dec. 1885) Baumeister, *Denkmäler*, etc., has apparently adopted the view herein set forth, but without any discussion of the question.

In 3 follows the construction of *cava aedium*, with the five kinds of roof construction. In 4 he continues:—

Atriorum vero latitudines et longitudes tribus generibus formantur. Et primum genus distribuitur uti longitudo cum in quinque partes divisa fuerit tres partes latitudini dentur, alterum cum in tres partes dividatur duae partes latitudini tribuantur, tertium uti latitudo in quadrato paribus lateribus describatur inque eo quadrato diagonios linea ducatur et quantum spatium habuerit ea linea diagonios tanta longitudo atrio detur. Altitudo eorum quanta latitudo fuerit quarta dempta sub trabes extollatur reliquo lacunariorum et arcae supra trabes ratio habeatur. Alis dextra ac sinistra latitudo cum sit atrii longitudo ab triginta pedibus ad pedes quadraginta ex tertia parte eius constituatur. Ab quadraginta ad pedes quinquaginta longitudo dividatur in partis tres semis, ex his una pars alis detur. Cum autem erit longitudo ab quinquaginta pedibus ad sexaginta quarta pars longitudinis alis tribuatur. Ab pedibus sexaginta ad octoginta longitudo dividatur in partis quatuor et dimidiam, ex his una pars fiat alarum latitudo. Ab pedibus octoginta ad pedes centum in quinque partis divisa longitudo iustam constituerit latitudinem alarum. Trabes earum liminares ita altae ponantur, ut altitudines latitudinibus sint aequales. Tablino si latitudo atrii erit pedum viginti dempta tertia eius spatio reliquum tribuatur. Si erit ab pedibus triginta ad quadraginta ex atrii latitudine tablino dimidium tribuatur. Cum autem ab quadraginta ad sexaginta latitudo dividatur in partis quinque ex his duae tablino constituantur. Non enim atria minora cum maioribus easdem possunt habere symmetriarum rationes. . . . Altitudo tablini ad trabem adiecta latitudinis octava constituatur. Lacunaria eius tertia latitudinis ad altitudinem adiecta extollantur. Fauces minoribus atriiis e tablini latitudine dempta tertia, maioribus dimidia constituantur. Imagines item alte cum suis ornamentis ad latitudinem alarum sint constitutae.

Latitudines forum ad altitudinem si Doricae erunt uti Doricae, si Ionicae erunt uti Ionicae perficiantur, etc.

"The length and breadth of *atria* are constructed in four styles: *first*, length to breadth, as 5 : 3; *second*, 3 : 2; *third*, $\sqrt{2}$: 1, or the *diagonal* to the *side* of a square. The height should be the breadth less $\frac{1}{4}$ (*quarta dempta*) up to the beams in the ceiling or the architrave, where there are columns. . . . For the *alae* on the right and

left the breadth should be determined when the length of the *atrium* is 30 to 40 feet at $\frac{1}{3}$ part of it; from 40 to 50 feet the length should be divided into $3\frac{1}{2}$ parts, and one of these be given to the *alae* (i.e. $\frac{2}{3}$). When the length is from 50 to 60 feet, $\frac{1}{4}$ part of the length should be assigned to the *alae*. From 60 to 80 feet the length should be divided into $4\frac{1}{2}$ parts, and so on. The beams of the *alae* should be placed so high that the height shall be equal to the breadth."

"The *tablinum*, if the breadth of the *atrium* is 20 feet, taking off $\frac{1}{3}$ of this distance, should have the rest assigned to it. If it is 30 to 40 feet, $\frac{1}{2}$ the breadth of the *atrium* should be assigned to the *tablinum*; if from 40 to 60 feet, $\frac{2}{3}$ should be given."

The reason is then given for this sliding scale. Then he continues: "The height of the *tablinum* to the beam should be made with $\frac{1}{3}$ added to the breadth. Its ceiling should be raised with $\frac{1}{3}$ of the breadth added to the height. The *fauces* should be made in smaller *atria*, with $\frac{1}{3}$ part taken from the breadth (i.e. $\frac{2}{3}$ of the *tablinum*), in larger with $\frac{1}{2}$. The *imagines* should be placed with their ornaments as high as the breadth of the *alae*. The width of the doors, in proportion to their height, should be as Doric, if they are Doric, etc. The opening of the *compluvium* should be left not less than $\frac{1}{4}$ nor more than $\frac{1}{3}$ of the width of the *atrium*, its length in proportion to the length of the *atrium*." Then *peristyles*, then various closed rooms.

The first question is as to the meaning of *fauces*. I have looked up the use of the word in all the passages I could find, and I think the history of the word throws some light on the present investigation. In the figurative use the notion in a Roman mind was evidently that of an entrance, just as we use *mouth*, a hole leading into (or out of) something, like *os* and *ostium*. Cato uses it of the mouth of a limekiln; Lucretius says it is the word for the Greek *κρᾶτήρ* as applied to a volcano, *fauces perhibemus et ora* (VI. 702).

Ennius, in a passage quoted by Cic. *de Div.* I. 48, says of the *carceres* of the *circus* "*pictis e faucibus*." Cicero uses *patefactis terrae faucibus* (*N. D.* ii. 37) of a supposed opening of the earth, an idea evidently derived from the bursting out of a volcano. In two other places he uses it of positions that command an entrance, as of Corinth, *posita in angustiis atque faucibus Graeciae ut claustra locorum teneret*, and of Manlius' force *in faucibus Etruriae*. As Manlius was at Fæsulæ and Arretium, the idea can only be that he holds the key to Etruria, a

use which Sallust follows in Cato's speech on the same subject, but more loosely: *Catilina cum exercitu faucibus urget, alii* (the conspirators who remained) *intra moenia*, a use like "thundering at the gates," though perhaps there may be here a feeling also of catching by the throat, as in *prehendere faucibus* or *fauces* used figuratively. (Cf. Livy XXI. 9.) Two other passages in which Cicero uses the word will be referred to hereafter. Cæsar uses it twice along with *portus* for the mouth of a harbor; and this becomes a standing expression in other writers, alternating with *ostium* and *os*. The author of the *Bellum Alexandrinum* uses it once in the sense of a pass; but the passage plainly shows that it means entrance. *Quibus ex castris cum locus angustus atque impeditus esset transeundus Pharnaces in insidiis pedites*, etc., *disposuit, magnam autem multitudinem pecoris intra eas fauces dissipari iussit paganosque et oppidanos in his locis obversari, ut sive amicus Domitius eas angustias transiret nihil de insidiis suspicaretur, cum in agris et pecua et homines animadverteret versari tanquam amicorum adventu, sive ut in hostium fines veniret praeda diripienda milites dissiparentur* (B. A. 36). It is to be noticed that this is an eastern pass. Virgil uses the word some ten times in all, five times of the mouth of the infernal world, and in two of these it is coupled with words of entrance. *Æn.* VI. 273, *vestibulum¹ ante ipsum primisque in faucibus Orci*; and *Geo.* IV. 467, *Taenarias fauces alta ostia Ditis*. In two of them again he has a hint at the literal meaning: *Æn.* VII. 569, *ingens vorago aperit fauces*; and VI. 241, *sese halitus atris faucibus effundens*. In *Geo.* I. 207 he uses *fauces Abydi* of the Dardanelles (Hellespont), which is like *fauces portus*, and became the regular use for such places, as in Lucan IV. 594, *Threicias fauces*; and Plin. *N. H.* III. 1, *faucibus oceani* (of Gibraltar).

In *Geo.* IV. 427 *siccis faucibus* is used of the fountains of a river, with the common Virgilian play, perhaps, on the literal meaning. There remain two passages where the use seems to approach the later meaning of a pass; but in one of them, *Æn.* XI. 525, the words are *angustae fauces aditusque maligni*, which clearly have the notion of an entrance into a larger place, not a pass through some place. In the other (same book, 516) Virgil uses *biviae fauces* alone, but of

¹ Probably *vestibulum* here means the *atrium*; but this makes no difference.

the same place; and this passage by itself would hardly seem to mean anything different from the other. In *Ciris*, 463, the words are *deserit angustis inclusam faucibus Isthmum*, which may be compared with Cicero's use, where the idea of entrance, as we saw, was clear.

Nonius quotes from Accius (fr. X. Ribbeck) : *in salti faucibus* (cf. examples from Livy below).

The use of the word by Livy is peculiar. In what remains of the earlier books the word does not occur in this sense of pass, even in the description of the Caudine Forks, where we should expect it. In fact, nowhere is a pass in Italy so called, if we exclude the cases in Virgil, above mentioned. In IX. 2, describing the Caudine Forks, Livy says : *sed ita natus locus est, saltus duo alti, angusti silvosique sunt, montibus circa perpetuis inter se iuncti. Iacet inter eos satis patens clausus in medio campus, per quem medium iter est. Sed antequam venias ad eum intrandae primae angustiae sunt et aut eadem qua te insinuaveris retro via repetenda aut per alium saltum*, etc. Then afterwards, *ad alias angustias*. So in VII. 39, *salu angusto*. In X. 1 he uses *fauces* of the mouth of a cave.

In Book XXI. 23 occurs the first use of the word for a pass : *fauces quae Hispanias Galliis iungunt*; and again, XXI. 30, *fauces pervias esse*, of the Alps; and XXI. 38, *fauces saltus*. It does not occur again for a long time in this sense, *i.e.* alone; but in XXII. 4 we have *ipsas fauces saltus*, and similar phrases often afterwards, and in XXVI. 25 *fauces Thessaliae*, used of Thermopylae. After this we have it used constantly of Greek and Eastern passes, but not of Italian.

From the XXII. book on, Livy uses *saltus* in this sense 64 times, *fauces* 29 times, *angustiae* 22 times.

In only a small proportion of the 29 cases is *fauces* used alone, distinctly, as a pass. In 11 places *fauces saltus* is used, or some other phrase indicating that *fauces* is the entrance, *saltus* the pass itself; such as, XXII. 15, *saltus qui in artas coactus fauces imminet mari* (at Terracina); XXXXII. 54, *fauces . . . qua Tempe adeunt*; XXXXII. 67, *ante ipsa Tempe in faucibus situm Macedoniae*. In six places it is used of an isthmus, apparently a regular use. (Cf. Cicero's use, above cited.) In five other places it is used like *faucibus Etruriae* in Cicero. Thus there are only seven places where it seems to be used like *saltus*, and some of these approach the narrower meaning.

It would seem as if this use of the word were derived from the Greek πύλαι, which is used of precisely these same places. Especially does this appear from XXXII. 5, *quae ad Antigoneam fauces sunt (stena vocant Graeci)*. Unless he had some such notion in his mind, Livy would naturally use *angustiae*, as he does in the earlier books, and of all Italian passes except where he uses *saltus*. Cf. XXXVI., *intra portas loci eius* (of Thermopylae).

Q. Curtius uses the word of precisely these passes in Cilicia, which are called πύλαι; as in III. 8, 19, *Alexander ad fauces quibus Syria aditur, et Dareus ad eum locum quem Amanicas pylas vocant*. Cf. Xen. *Anab.* I. 4. 4, πύλαι τῆς Κιλικίας καὶ τῆς Συρίας.

Pliny the Elder uses it about 20 times, in all the senses, but not of any Italian place. So, also, Lucan; and the use becomes general. But I have not been able to find any use of it for Italian places, except in *fauces saltus* and similar phrases, above referred to.

The two passages from Cicero which I have left untouched are those in which he speaks of *faucibus macelli*. We do not know the construction of this market, but we know that it was a building; and, for such a purpose, it must have had a large open court in the centre, and was, no doubt, surrounded by shops opening out (or by shops opening in), like the so-called *Augusteum*, at Pompeii, which has been by many supposed to have been a market, though the internal arrangements make that doubtful. This building has two passages into it, somewhat like the entrance to the Music Hall in Boston, though not so long. This is doubtless what is meant by Cicero. Thus we have two passages in Virgil which clearly refer to an entrance to a house, and two in Cicero which probably do, as well as one in Gellius (see later), and then the general notion of the word, which was clearly that of an entrance, and continued to be so, even after the word had come to be used for a pass. As in Vitruvius' description, the word must be used to denote the ordinary, though apparently not the literary, name of the place referred to (on account of the nature of his book), it seems almost certain that he uses it with the old meaning of an *entrance* into one place, rather than a *passage* between two.

The passage in Gell. XVI. 5 is directly on the point, being a comment on Virg. VI. 273, but is, unfortunately, somewhat obscure, on account of his uncertainty as to the meaning of *vestibulum*:—

"Non enim vestibulum priorem partem domus infernae esse dicit quod obrepere potest tanquam si ita dicatur, sed loca duo demonstrat extra Orci fores, vestibulum et fauces, ex quibus vestibulum appellat ante ipsam quasi domum et ante ipsa Orci penetralia, fauces autem vocat iter angustum per quod ad vestibulum adiretur."

Here all we are sure of is that Gellius understood the *fauces* to be in front. If, as is most probable, Virgil or Gellius confounds the *atrium* and *vestibulum*, this would show that they are the very passage I am speaking of, namely, that from the front door into the *atrium*.

Macrobius (*Saturn.* VI. 8), discussing the same passage, has the same difficulty in reference to *vestibulum*. Though he decides for the old meaning of *vestibulum*,—the space in front of the door, and not the *atrium*,—yet, apparently deceived by the later identification of *vestibulum* with *atrium*, he says: *fauces autem iter angustum est per quod ad vestibulum de via flectitur*. This definition gives no trustworthy clue to the meaning; but it is evident that Macrobius has no idea of an inner passage.

We may add to these cases the definition given by Isidore, *Orig.* XIV. 826: *Fauces sunt angustiorum locorum aditus inter duos montes loca angusta et pervia, dicta a faucium similitudine quasi foces*.

Now let us apply the words of Vitruvius to the actual Roman house as it appears at Pompeii. He starts with the proportions of the interior—one architectural feature. The length, breadth, and height of the *atrium* are given (the central part as it appears in the plan, page 11); then the right and left appendages, which are *never closed*, but form a part of the architectural feature in question; then the *tablinum*, which stands in the same relation at the back; then the *fauces*. The only part that stands in the same relation is the passage at the front, which never has a door, and which being directly opposite the *tablinum*—the pendent to it, as it were—may naturally take its proportions from that. Then the doors (*i.e.* of closed passages, etc.) are described; then the opening in the roof. It must be remembered that all of these parts are visible to a person standing either at the outer or inner end of the *atrium*, and no others are. All the side passages have, in the Pompeian houses, thresholds and marks of doors, and must have been closed, so that these rooms

could not have formed a part of the *atrium* considered, as Vitruvius evidently is considering it, as an architectural member.

It seems impossible to regard the *fauces* as anything else but the front passage — just what it ought to be with the other meanings of the word as given above.

The only reasons assigned for taking it as the passage or passages at the side are that Vitruvius mentions it next after the *tablinum*; but, as we have shown, he takes first the centre, then the two side appendages; and as he must then take one end or the other, he naturally begins at the most imposing end, — the show part of the house, — the *tablinum*, and then takes the opposite end, the *fauces*. A feeble support of the side-passage view is drawn from the fact that Vitruvius says that one enters the *atrium* in city houses immediately from the start. His words are: "*in urbe atria proxima ianuis solent esse, ruri autem pseudourbanis statim peristylia deinde tunc atria habentia circum porticus*," etc. It is obvious that he is only speaking of the two architectural members or courts in general, and not of the details of either. If it means that there is no passage to the *atrium*, then he must also mean that there is no passage to the next court, for he says, *deinde tunc atria*, without mentioning any passage.

One argument for the side passage is drawn from the supposed fact that Vitruvius mentions the *peristyle* immediately after the *fauces*. But this is not the case. He speaks of the *imagines*, the doors, and the *compluvium* first, thus going round the *atrium* again, showing that he takes his stand in the space and describes the features of the *atrium* as seen from that point.

One argument is drawn from the idea that Vitruvius gives the proportions in such a way as to have the side passages, in case there are two, exactly make up the size of the *atrium*. In the first place, this is of no account; because the remainder of that end of the house (see Plan) does not have any relation to the *atrium*, properly so called, for the rooms at that end include also all the space occupied at the side of the *atrium* proper by the *alae*, or the *cubicula* and other closed rooms.

Then, again, it is not true. Thus: *Tablinum* is $\frac{2}{3}$, $\frac{1}{2}$, or $\frac{2}{3}$ of *atrium*; *fauces*, $\frac{2}{3}$ or $\frac{1}{2}$ of *tablinum*. Then with the largest *tablinum* and larger *fauces* we shall have: *tablinum*, $\frac{2}{3}$ of *atrium* + ($\frac{2}{3}$ of

tablinum, i.e. $\frac{2}{3}$ of $\frac{2}{3}$) + $\frac{1}{3}$ = $\frac{10}{9}$ of *atrium*, or, with two passages, $\frac{2}{3} + \frac{2}{3}$ = $\frac{4}{3}$ of *atrium*; with the smaller *fauces*, $\frac{2}{3} + \frac{1}{3}$ ($\frac{1}{2}$ of $\frac{2}{3}$) = 1,* or, with two passages, $\frac{2}{3} + \frac{2}{3}$ = $\frac{4}{3}$ of *atrium*. With the smallest *tablinum* and larger *fauces*, *tablinum*, $\frac{1}{2}$ of *atrium* + ($\frac{2}{3}$ of *tablinum*, i.e. $\frac{2}{3}$ of $\frac{1}{2}$) + $\frac{1}{3}$ = $\frac{5}{6}$, or, with two passages, $\frac{1}{2} + \frac{2}{3}$ = $\frac{7}{6}$ of *atrium*. With the smallest *tablinum* and smaller *fauces*, $\frac{1}{2} + \frac{1}{4}$ = $\frac{3}{4}$ of *atrium*, or, with two passages, $\frac{1}{2} + \frac{2}{4}$ = 1.* With the medium *tablinum* and larger *fauces*, $\frac{2}{3}$ of *atrium* + ($\frac{2}{3}$ of $\frac{2}{3}$) = $\frac{8}{9}$ of *atrium*. With the medium *tablinum* and smaller *fauces*, $\frac{2}{3}$ + ($\frac{1}{2}$ of $\frac{2}{3}$) $\frac{1}{3}$ = $\frac{7}{9}$ of *atrium*, or $\frac{2}{3} + \frac{2}{3}$ = $\frac{4}{3}$ of *atrium*. So that it is in only two cases (marked with a star), and those upon different suppositions in regard to the existence of *one* or *two* passages, that the reckoning corresponds; while upon our supposition the two corner rooms, either with or without a passage cut off, being independent of the *atrium*, as are the front rooms, or shops, may take up the whole breadth of the house.

According to Vitruvius, the *fauces* should be $\frac{1}{2}$ or $\frac{2}{3}$ of the *tablinum*. Now I have measured these passages in the plans of about forty Pompeian houses, drawn to scale in Overbeck, Presuhn, and the *Giornale dei Scavi*, with the following results:—

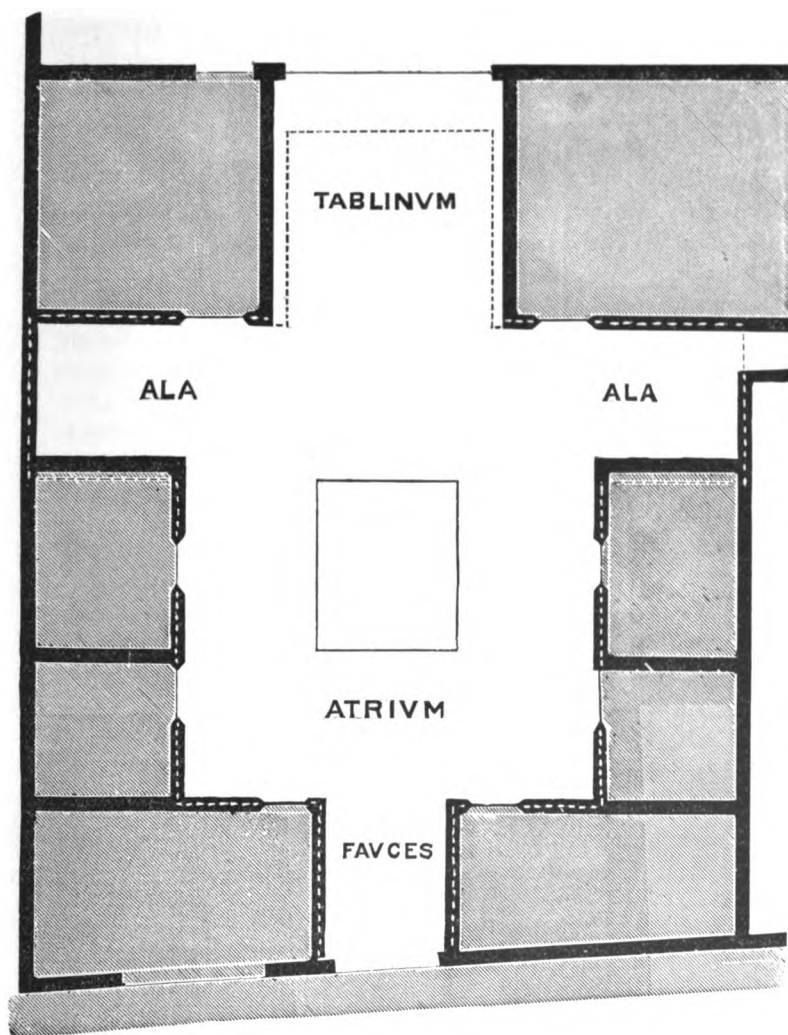
The front passage averages $\frac{5}{10}$ of the *tablinum* in width; the side passage, when present, averages only $\frac{3}{10}$.

In detail: The front passage measures, in 3, $\frac{6}{10}$ of the *tablinum*; in 14, $\frac{1}{2}$; in 12, above $\frac{1}{3}$; in 4, below $\frac{1}{3}$; in 1, none; in 4, above $\frac{1}{3}$ where no measure of side passage is attainable. The side passage measures in 2, $\frac{1}{2}$ of *tablinum*; in 8, above $\frac{1}{3}$; in 15, below $\frac{1}{3}$; in 9, none; in the remainder, no dimension of side passages is given.

Thus it appears that in hardly any case does the side passage come anywhere near the prescribed size, but, in very many cases, is entirely wanting, — its place being supplied by a room opening both ways, or not supplied at all, — while the front passage corresponds as nearly as could be expected to Vitruvius' statement, and is, in fact, not wanting in more than half-a-dozen houses in Pompeii. Further, if we compare the proportions given by Vitruvius with the existing houses, it is still more clear that the *fauces* is the front passage.

Appended is a plan of the "House of the Surgeon," drawn to scale after Overbeck, on which is superposed, in dotted lines, the proportions for a house of that size as given by Vitruvius.

To sum up: First, the word *fauces* naturally means *entrance*.



Second, Vitruvius' description has nothing else to refer to except the front passage, as this is always open, corresponding in this respect to the *alae* and *tablinum*; while the others are always closed, and so cannot form a part of the architectural feature which Vitruvius is considering. Third, the actual houses show the front passage agreeing with his description; while the other is often wanting, and, when present, never corresponds to Vitruvius' description.

DE IGNIS ELICIENDI MODIS APVD ANTIQVOS

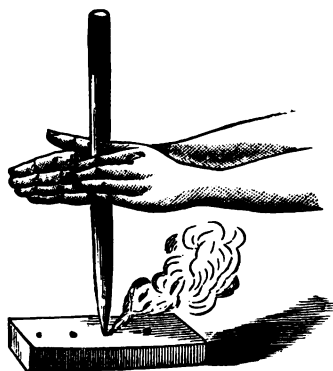
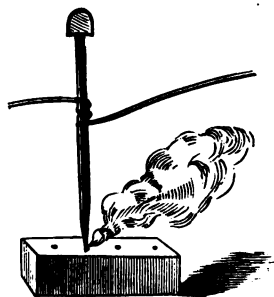
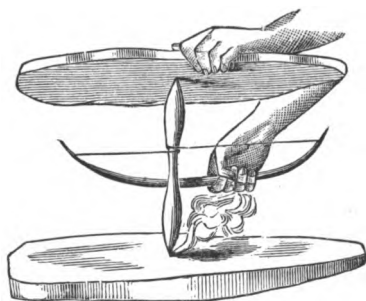
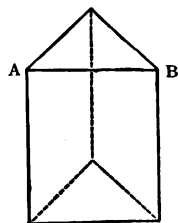
COMMENTATIO QVAM SCRIPSIT

MORRIS HICKY MORGAN.

HOC commentariolum duo prope abhinc annos eo consilio scriptum ut ab Vniuersitatis Haruardianae Senatu Academico summos in philosophia honores rite impetraremus cum nuper placeret formis describere, occasione data nonnulla omisimus, non pauca addidimus, multa correximus, quo res tota politius limaretur. Nunc restat ut uiris doctissimis, studiorum nostrorum adiutoribus fautoribusque, maximas gratias agamus quas semper habebimus libenterque referemus.

OMNIBVS qui studiis rerum antiquarum sese dederunt saepe accidit ut, cum aliquam rem penitus intellegere uellent, totam eius rationem suo Marte diligenter inuestigare oporteret. His quidem parui erunt illa uolumina quae rerum antiquarum scientiam per omnia explicare dicuntur, nisi uero fontes aperiunt ex quibus principio manabant. Itaque nostra aetate consuetudo magis inualescit ut, si quis aliquid subtilius inquisiuerit, ea quae didicit in libellum referat. Erit igitur operae pretium scribere quae de antiquis ignis eliciendi modis explorare potuerimus; quae quidem quamuis primo aspectu leuiora esse uideantur, haud inutilia fortasse iis fuerint qui ad maiora animos intendant.¹

¹ Haud multa apud scriptores recentes de hac quaestione repperimus; libelli autem in manibus nobis fuerunt O. Pescheli (*Völkerkunde*, ed. 1885, pp. 139 sqq.), W. Strickeri (*Sammlung von Virchow und Holtzendorff*, Serie IX, Heft 199), G. Klemmi (*Allg. Kulturwiss.* I, p. 245, II, p. 26, V, p. 16). Hi quidem ad mores gentium barbarorum describendos pleraque sese dederunt. M. Plancki commentationem (*Die Feuerzeuge der Griechen und Römer und ihre Verwendung zu profanen und sakralen Zwecken*, progr. Stuttgart, 1884) primum nos uidimus haec quantacumque sunt formis descripturi; nonnulla tamen in adnotationibus de ea addidimus.

**I****II****III****IV****V**

Quo modo homines ignis usum primum intellexerint non nostrum hoc loco dicere; immo hercule nihil certum inueniri potest. Erudite tamen de hoc disseruit uir doctus ADELBERTVS KVHN, in libro qui inscribitur *die Herabkunft des Feuers*. Satis autem nobis uidetur dicere in fabulis omnium fere gentium dei¹ alicuius memoriam esse traditam qui ignem mortalibus dedisse credatur. Hebraeorum tantum modo in scriptis sacris nihil de eo dono memoriae proditum est. Ea quoque fabulosa nobis esse uidentur omnia de iis gentibus narrata quae, ut ait LVCRETIVS (5, 953),

necdum res igni scibant tractare.

Cf. HES. *Theog.* 563:—

οὐκ εἰδίδου μελέοισι πυρὸς μένος ἀκαμάτοιο
θηητοῖς ἀνθρώποις.

Haec autem non apud antiquos tantum credebantur, sed etiam scriptoribus nonnullis nostrae aetatis persuasum est homines et esse et fuisse qui ignis usu careant. Fabulas enim iis similis quae apud PLINIVM (*N. H.* 6, 188), PLVTARCHVM (*Aqua an Ignis utilior?* 2, 3), POMP. MELAM (3, 9), exstant, alii etiam hoc saeculo narrauerunt et praefectus quidam classis nostrae ex longa nauigatione domum reuersus eadem rettulit.² Sed haec omnia uana esse atque leuia uir doctus TYLORVS demonstrauit (*Early History of Mankind*, pp. 231–8). Cum autem de his nihil fide dignum nobis sit traditum, suspitione tamen res non caret in ultima antiquitate fuisse homines uel potius animalia—si re uera, ut aiunt philosophi quidam, genus olim erat quoddam utrisque simillimum—qui sine ignis usu uitam egerint. Sed haec hactenus; nunc ad res certiores ueniamus.

QVAERAMVS igitur quem ad modum apud antiquos fieri solitus sit ignis; constat enim haud facile eos id fecisse; quippe nondum centum anni sunt cum maiores nostri, silice chalybeque usi, ignem laboriose excudebant. Sed hoc saeculo res noua excogitata est ut ramentum ligni sulphure atque eo quod nunc phosphorus appellatur ad extremum tingeretur; hoc cum in aliquid acriter fricatum est,

¹ Homini cuidam id donum Argiui adscribebant; cf. PAVS. 2, 19, 5.

² WILKES.: *Narrative of the U. S. Exploring Expedition of 1839–42*; vol. 5, p. 18.

ignis extemplo incendi solet. Nos igitur nullo negotio ignem paramus; aliter antiqui, qui, ut is semper ad manum esset, carbones ardentes ad accendendum ignem cum usus exigeret sub cineribus focorum obrutos seruare solebant; cf. HOM. *Od.* 5, 488:—

ὥς δ' ὅτε τις δαλὸν σποδιῇ ἐνέκρυσε μελαίνῃ
ἄγρου ἐπ' ἑσχατῆς, ᾧ μὴ πάρα γείτονες ἄλλοι,
σπέρμα πυρὸς σφύζων, ἵνα μὴ ποθεν ἄλλοθεν αὖτοι.

Cf. OVID. *M.* 8, 631; VERG. *Moret.* 8 sqq.; CAT. *R. R.* 143.

Hos quidem alias aliter Graeci nominabant: primum τὰ ζώπυρα dicebant; cf. locum PLATONIS (*Legg.* 677 B) de iis qui ex aquarum eluuiione seruati sint:—

ὥς οἱ τότε περιφυγόντες τὴν φθορὰν σχεδὸν ὄρειοί τινες ἂν εἶεν νομῆς,
ἐν κορυφαῖς πον σμικρὰ ζώπυρα τοῦ τῶν ἀνθρώπων διασεσφμμένα γένους.

Similiter ait LVCIANVS (*Tim.* 3):—

ἐπὶ τοῦ Δευκαλίωνος . . . μόγις ἐν τι κιβώτιον . . . ζώπυρόν τι τοῦ
ἀνθρωπίνου σπέρματος διαφυλάττον.

Cf. PLVT. quoque *Instit. Lac.* 240 A:—

ὀλίγοι, πάνυ βραχέα τινὰ ζώπυρα διασώζοντες τῆς Λυκούργου νομοθεσίας.

Deinde τὰ πύρδανα siue πύρδαλα dicebant; cf. HESYCH. s.uu.:—

πύρδαλον· τὸ καύσιμον φρύγανον, ἢ ξύλον, ἢ λείψανον.

πύρδανα· τὰ λείψανα· καὶ τὰ ζώπυρα τοῦ πυρός.

Deinde τὰ λείψανα; cf. HESYCH. locos supra laudatos et s.u. ἐμπύρευμα· λείψανον. Cf. ARISTID. 1, p. 785 Dind.:—

μικρὸν δὲ λείψανον τῆς Ἑλλάδος εἰς ὑμᾶς ἀγαπητῶς ἀφίκετο ἀρετῇ τῶν
νῦν ἀρχόντων ἀναληφθέν.

Cf. NON. D. 37, 62.

Postremo τὸ ἐμπύρευμα dicebant; cf. SYNES. de regno, p. 31 C: οὐδ' ἐμπύρευμα λείπεσθαι βουλόμενος ἐναῦσαι. HESYCH. s.u. ἐμπύρευμα· λείψανον. SVID. s.u. ἐμπύρευμα· ἔναυσμα, σπέρμα πυρός.

Romani quoque animis eandem imaginem fingeant cum u. igniculus utebantur; cf. CIC. *Fin.* 5, 18:—

Valetudinem, uiris, pulchritudinem cetera generis eiusdem, quorum similia sunt prima in animis quasi uirtutum igniculi et semina.

Recte uero ab hac consuetudine ignis seruandi nescio quis¹ iam

¹ HELBIGI (*Die Italiker in der Poebene*, p. 53) et BASTIANI (*Zeitschr. Ethnol.*, 1, p. 378) locos a PLANCKIO laudatos (p. 3) non uidimus.

perspexit illum ignem foci publici sempiternum, quem uirgines Vestales custodiebant, originem deduxisse. Graecorum quoque mos fuit omnibus in ciuitatibus ut priscis temporibus in regis aedibus, postea in prytaneis ignis publicus semper arderet; cf. PREVNER., *Hestia-Vesta*, pp. 95-141.

MILITIAE quoque necesse erat ignem seruare ut castris positus praesto esset; id munus ab eo fortasse sustinebatur quem Graeci πυρφόρον appellabant. Quem cum scriptores tradiderint alii propter religionem sacrorum exercitum sequi, alii ut face deiecta signum proelii committendi det, nobis tamen ueri simile esse uidetur temporibus antiquissimis eundem usum eum praebuisse militibus quem ciuibz uirgines Vestales. Romanorum autem exploratores castrorum lapide et clauo usos ignem excudisse auctor est PLINIVS (*N. H.* 36, 138, infra, p. 37), neque quicquam apud eos de eo qui πυρφόρος appelletur reperire potuimus. Graecorum quidem testimonia subiecimus:—

EV. *Phoen.* 1377—

ἐπεὶ δ' ἀφείθη πυρσὸς ὥς Τυρσηνικῆς
σάλπιγγος ἤχη σῆμα φοινίου μάχης,
ᾗξαν δρόμημα δεινὸν ἀλλήλοισι ἔπι.

SCHOL. *ibid.*: πρὸ γὰρ τῆς εὐρέσεως τῆς σάλπιγγος ἐν ταῖς μάχαις καὶ τοῖς μονομαχοῦσιν, ἐν μέσῳ τις λαμπάδα καιομένην ἔρριπτεν, σημεῖον τοῦ κατάρξασθαι τῆς μάχης.

XEN. *Rep. Lac.* 13, 2, 3: λαβὼν δὲ πυρφόρος πῦρ ἀπὸ τοῦ βωμοῦ προηγείται ἐπὶ τὰ ὅρια τῆς χώρας· ὁ δὲ βασιλεὺς ἐκεῖ αὖ θύεται Διὶ καὶ Ἀθηνᾷ· ὅταν δὲ ἀμφοῖν τούτοις τοῖν θεοῖν καλλιερηθῇ, τότε διαβαίνει τὰ ὅρια τῆς χώρας· καὶ τὸ πῦρ μὲν ἀπὸ τούτων τῶν ἱερῶν προηγείται οὕποτε ἀποσβεννύμενον, σφάγια δὲ παντοῖα ἔπεται. Cf. NICOL. DAM. *ap. Müll. frag. hist. Graec.* 3, p. 458, 114, 14.

C. I. A. 3, 264: Ἱερῶς πυρφόρον ἐξ Ἀκροπόλεως. Cf. C. I. G. 186. 353; VISCHER. in *Neues Schweizerisches Museum*, III, p. 58.

ZENOBIVS, 5, 34: οὐδὲ πυρφόρος ἐλείφθη· ἐπὶ τῶν μεγάλων κινδύνων εἴρηται ἡ παροιμία· ἐπειδὴ πάσης πολεμικῆς παρασκευῆς ἔδει τὸν μάντιν ἡγείσθαι, δάφνης ἔχοντα κλάδον καὶ στέμματα καὶ λαμπάδα· καὶ τούτου νόμος ἦν μόνου φεῖδεσθαι τοὺς πολεμίους. ἐπὶ τοίνυν τῶν πανωλεθρίᾳ

διεφθαρμένων καιρὸν ἔσχεν ἡ παροιμία. Cf. DIOGEN. 7, 15; PHOT. et SVID. s.u.

HESYCH.: πυρφόρος· ὁ πῦρ φέρων· καὶ ὁ μόνος διασωθεὶς ἐν πολέμῳ.

Prouerbum autem iam tempore Herodoti inualuerat; cf. 8, 6: ἔδει δὲ μηδὲ πυρφόρον τῷ ἐκείνων λόγῳ ἐκφυγόντα περιγενέσθαι. Cf. etiam DIO. CASS. 39, 45; PHILON. I. t. 2. p. 109, 34; NIC. GREG. p. 529 A.

DOMIBVS autem priuatis si forte aliquando ignis erat extinctus, e proximis uicinis iterum incendere solebant; cf. HOM. *Od.* 5, 488 (supra, p. 16), et LYS. I. § 14: —

ἐρομένον δέ μου τί αἱ θύραι νύκτωρ ψοφοῦεν, ἔφασκε τὸν λύχνον ἀποσβεσθῆναι τὸν παρὰ τῷ παιδίῳ, εἶτα ἐκ τῶν γειτόνων ἀνάψασθαι. Cf. PLAVT. *Rud.* 766, *Aul.* 91.; PETRON. *Sat.* 136; PHAEDR. 3, 19.

Inter enim officia (τὰ καθήκοντα) erat pati ab igne ignem capere; cf. CIC. *Off.* I, 52: —

ex quo sunt illa communia, non prohibere aqua profluente, pati ab igne ignem capere, si qui uelit, consilium fidele deliberanti dare.

Haec uero e Panaeti περὶ τοῦ καθήκοντος libris a Cicerone sine dubio hausta sunt, ut ait FOWLER. *Panaetii et Hecatonis librorum fragmenta*, Bonn, 1885; cf. XEN. *Mem.* 2, 2, 12; *Occ.* 2, 15; ENN. ap. CIC. *Off.* I, 51; PLAVT. *Trin.* 3, 2, 53; CIC. *Off.* 3, 54. Quod si quis hoc officio defuerat, execratus habebatur; cf. DIPHIL. *Paras.* frag. 3 (Meinek.): —

ἀγνοεῖς ἐν ταῖς ἀραῖς

ὃ τι ἐστίν, εἴ τις μὴ φράσει' ὀρθῶς ὁδόν,

ἢ πῦρ ἐναύσει, ἢ διαφθείρει' ὕδωρ,

ἢ δειπνιεῖν μέλλοντα κωλύσαι τινά;

Notum est tamen apud Romanos iis qui de ui itemque iis qui maiestatis erant damnati aquam et ignem legibus interdici; cf. CIC. *Phil.* I, 23; 6, 10; *Pro Dom.* 78; *Fam.* II, 1, 2; CAES. *B. G.* 6, 44; APPIAN. *B. C.* I, 31; GAL. *Instit.* I, 128. Temporibus autem antiquissimis cum pauca de ignis eliciendi modis homines iam intellegebant haec poena certe instituta est, qua Graeci quoque utebantur. Cum autem nihil de hac re in libris recentibus de iuribus legibusque Atheniensium scriptis repperimus, scriptores antiquos omnis commemorabimus qui de ea aliquid tradiderunt¹; sed, ne longum facia-

¹ De hac re bene disseruit uir doctus PLANCKIUS (pp. 32-34).

mus, locos tantum modo neque uerba subiciemus: HDT. 7, 231 (cf. adnot. GAISFORD.); DIN. *Or.* 2, 9; DEM. 25, § 61; PLVT. t. 2, p. 538 A; POLYB. et AELIANVS (?) apud SVID. s.u. ἐναίειν.

SED cum plerisque causis saepe accideret ut ignem nouum excitari oporteret,¹ erant omnino modi quattuor quibus hoc fieri posset.

Primum attritu factus est ignis, cum duo ligna inter se trita siue terebrata sunt; deinde duorum lapidum conflictu excitari potuit; tum si ferro lapis percutiebatur, postremo ex solis radiis, cum specula uel crystalla opponebantur, ignis elicitus est. Cf. PLIN. *N. H.* 2, 239; SEN. *Q. N.* 2, 22; CIC. *N. D.* 2, 25. De uniuersis autem his locis infra disseremus; nunc uero singillatim de uno quoque modo quaeramus.

PRIMUM scribere de lignorum attritu statuimus; nam hoc modo omnibus² uisum est ignem apud Indos, Graecos, Romanos, Germanos ab initio esse elicited (cf. KVHN. l.l. p. 36); etiam nunc Indi in sollemnibus sacris hunc morem obseruant.³ Praeterea hodie sunt gentes quae lapidum usum ad accendendum ignem non intellegunt (cf. TYLOR. pp. 234, 241 sqq.). Inter scriptores Graecos hoc SOPHOCLES (*Phil.* 295, u. infra, p. 36), illud poeta nobis ignotus in carmine Homérico ad Mercurium inscripto (108 sqq., u. infra, p. 20) primus commemorauit. Hic uero annis ante Sophoclem ducentis a plerisque fuisse putatur (cf. BAVMEISTER., GEMOLL., ABEL., in edd. *Hymn. Hom.*). Locus autem carminis nos docet Graecos ipsos arbitratos esse ignem lignorum attritu primum fieri: —

¹ Fortasse etiam putandum est apud tabernarios carbones ardentes uenales esse propositos; cf. IUV. 1, 134: —

caulis miseris atque ignis emendus.

Amici quidem doctissimi beneficio inscriptionem quandam, utilem ad Iuuenalis locum explicandum, citare possumus, quam proximo anno in Batauos profectus uidit: —

WATER EN VUUR TE KOOP.

² PLANCKIUS quidem non solum huic sententiae sed etiam sibi ipse dissentire uidetur; cf. pp. 16, 18, 19, 23.

³ Cf. IORDAN. *Der Tempel der Vesta*, p. 79 sq.

σὺν δ' ἐφόρει ξύλα πολλά, πυρὸς δ' ἐπεμαίετο τέχνην·
 δάφνης ἀγλαὸν ὄζον ἔλων ἐπέλεψε¹ σιδήρῳ
 ἄρμενον ἐν παλάμῃ· ἄμπνυτο δὲ θερμὸς ἀντμή·
 [Ἑρμῆς τοι πρώτιστα πυρήια πῦρ τ' ἀνέδωκεν.]
 πολλὰ δὲ κάγκανα κᾶλα κατουδαίψ ἐνὶ βόθρῳ
 οὔλα λαβὼν ἐπέθηκεν ἐπηγετανά· λάμπετο δὲ φλόξ
 τηλόσε φῦσαν ἰεῖσα πυρὸς μέγα δαιομένοιο.

Ad hoc spectat locus LVCRETII (5, 1096 sqq.) :—

et ramosa tamen cum uentis pulsa uacillans
 aestuat in ramos incumbens arboris arbor,
 exprimitur ualidis extritus uiribus ignis
 et micat interdum flammæ feruidus ardor,
 mutua dum inter se rami stirpesque teruntur.

(Cf. LVCRET. I, 897 sqq.)

Simplicissimo igitur modo ignis fieri solet cum duo ligna, aliud aliam in manum sumptum, inter se teruntur. Sed non recte nostra sententia ita quisquam interpretetur uerba SENECAE (*Q. N.* 2, 22) :—

Videamus quem ad modum fieri soleat ignis apud nos . . . duobus modis . . . altero si attritu inuenitur, sicut cum duo ligna inter se diutius fricta sunt. . . .

Multo enim ante Senecam ab antiquis instrumentum quoddam erat inuentum quo sine tanto labore idem facerent. Nam apud Apollonium Rhodium (u. infra, p. 21) id instrumentum commemoratur quod Graeci *πυρεῖον*, Romani igniarium siue ignitabulum appellabant. Hoc est ex duobus lignis compositum, quorum unum (quod *τρύπανον* Graeci² nominabant) alterum tam diu terebrabat dum ignis in hoc conciperetur. Sed recte Seneca uerbo quod est a terendo utitur, propterea quod *τρύπανον* non solum terebrat sed eodem tempore alterum lignum terit, quo ipso fit ut ignis concipiatur. Itaque hoc modo Plinius atque ceteri scriptores Romani uerbum a terendo usurpant (u. infra, p. 27) ; Graeci quoque idem faciebant, uu. *τρίβω*, *ἐκτρίβω*, *συντρίβω* usi (u. infra, pp. 30, 31), uerbum fortasse seruantes cum ab ea significatione in qua esset natum iam decessisset. Multa

¹ ἀπέλεψε optime emend. COBETVS.

² Terebram Romani sine dubio id appellabant, quamquam exempla desunt.

enim uerba, ut ait VARRO (*L. L.* 5, 1, 3) aliud nunc ostendunt, aliud ante significabant.

Nam incredibile est uel Romanos uel Graecos, nisi si necessitate cogebantur, illo modo simplicissimo ignem fecisse; quippe eorum maiores instrumenti πυρίον usum intellegebant antequam ex Asia in Europam migrauerunt (cf. KVHN. l.l. passim). Tempore autem APOLLONI RHODI lignum terebrari neque teri solebat; cf. *Argonaut.* 1, 1182 sqq.:—

ἐνθα δ' ἔπειθ' οἱ μὲν ξύλα κάγκανα, τοὶ δὲ λεχαῖην
φυλλάδα λειμώνων φέρον ἄσπετον ἀμήσαντες,
στόρνυσθαι τοὶ δ' ἀμφὶ πυρῆα διενέυσκον.

Praeterea si Festo credere licet (de quo u. infra, pp. 57 sqq.), in sacris antiquissimis Romani terebrando non terendo ignem excitabant; cf. FEST. s.u. Ignis:—

Ignis Vestae si quando interstinctus esset, uirgines uerberibus afficiebantur a pontifice, quibus mos erat tabulam felicitis materiae tam diu terebrare quousque exceptum ignem cribro aeneo uirgo in aedem ferret.

Videmus igitur de eo instrumento esse nobis quaerendum quod tam antiquis temporibus est inuentum ut de eius origine nihil certum disci possit. Graeci autem quidam Prometheo id donum attribuebant; cf. DIOD. SIC. 5, 67:—

Προμηθεά, τὸν παραδεδομένον μὲν ὑπὸ τινων μυθογράφων ὅτι τὸ πῦρ κλέψας παρὰ τῶν θεῶν ἔδωκε τοῖς ἀνθρώποις, πρὸς δ' ἀλήθειαν εὐρετὴν γενόμενον τῶν πυρίων ἐξ ὧν ἐκκάεται τὸ πῦρ.

His uerbis Diodorus fabulam explicare conatur; dicit enim sub Promethei nomine hominem quendam ostendi qui instrumentum inuenit. Sed de nomine PROMETHEVS et uocabulo Skt. PRAMANTHA, quod est πυρίον, u. KVHN. l.l. p. 17; CVRT. *Gr. Etym.* p. 335. Bene autem uersum carminis Homeric (111, u. supra, p. 20) quo instrumentum πυρίον Mercurio adscribitur damnauit Ruhnkenius, quem ceteri secuntur qui illa carmina ediderunt; nam recte putant hunc uersum e glossa natum esse. Sed frustra dicit Baumeisterus haec uerbis HESIODI (*Theog.* 567, u. infra, p. 43) repugnare. Nusquam enim instrumentum πυρίον Prometheo adscripsit Hesiodus, cum in ferula seruatum e caelo hominibus ignem is dedisset. Quod si nescio quis hoc instrumentum Mercurio adscribere uolebat, illud certe mirandum est quod

in hac re non commemoratur Daedalus; huic enim artes nouae plerumque adscribi solent. Quamquam uero his in fabulis nihil tale repperimus, Daedalus tamen instrumentum ei simillimum inuenisse dicitur. Nam PLINIVS Daedalo terebrae inuentionem adscripsit (*N. H.* 7, 198); haec fabrorum tignariorum instrumentum fuit, quo ad terebrandum lignum utebantur. Apud Graecos quidem nonnumquam *τέρετρον* appellabatur; cf. HOM. *Od.* 5, 246:—

τόφρα δ' ἔνεικε τέρετρα Καλυψώ, δῖα θεῶν·
τέτρηγεν δ' ἄρα πάντα.

Praeterea fabri instrumentum terebrae simile sed ea amplius habuerunt quod *τρύπανον* Graeci appellabant; hoc nomen, ut supra diximus (p. 20), parti cuidam instrumenti *πυρείου* datum est.

Err igitur utile de hoc fabrorum instrumento pauca quaerere; ab eo enim putamus τὸ τρύπανον τῶν πυρείων originem duxisse. Satis autem opportune accidit ut de eius usu HOMERI uerba habeamus quae secuntur (*Od.* 9, 382 sqq.):—

οἱ μὲν μοχλὸν ἐλόντες ἐλάινον, δῆδ' ἐπ' ἄκρῳ,
ὀφθαλμῷ ἐνέρεισαν. ἐγὼ δ' ἐφύπερθεν ἀερθεῖς
δίνεον, ὡς ὅτε τις τρυπῶ δόρυ νήιον ἀνὴρ
τρυπάνῳ, οἱ δέ τ' ἐνερθεν ὑποσσεῖουσιν ἱμάντι
ᾠψάμενοι ἐκάτερθε, τὸ δὲ τρέχει ἐμμενὲς αἰεῖ.

Eadem fere expressit EVRIPIDES in *Cyclope* (460):—

ναυπηγίαν δ' ὥσει τις ἀρμόζων ἀνὴρ
διπλοῖν χαλινοῖν τρύπανον κωπηλατεῖ.

Videmus igitur terebram maiorem—Romani enim hoc uno uocabulo et *τρύπανον* et *τέρετρον* designabant—terebram maiorem, dicimus, loro bis (*διπλοῖν χαλινοῖν*) circumplicatam esse; itaque extremis lori in uicem adstrictis terebra summa celeritate se conuertit; stabiliendi autem causa necesse est aliquis super terebrae caput manum leniter ponat. Quod si hoc non dilucide explicauimus, facilius totum aliquis intellet si baculo usus rem ipsam temptarit. Constabit autem duobus hominibus opus esse, sed unus homo instrumento quod Daedalus inuenisse dicitur sine dubio uti

potuit. Nam priscis temporibus Aegyptii terebra hoc modo utebantur; cf. tabulam quae in libro WILKINSONI, *Manners and Customs of the Egyptians*, 3, p. 144, describitur. Hac in tabula uidemus fabrum tignarium qui arcu loroque terebram circumagit; caput autem terebrae in aliquo cauo quasi uagina positum stabilit. Exstat quoque idem instrumentum in uase quodam Graeco depictum apud GERHARD., *Danaë*, in *Berl. Winckelmann Festprog.*, 1854; cf. RAOVL-ROCH. *Choix des Peintures*, pp. 181, 225. Romani quoque eo utebantur, cuius exemplum datur in libello IAHNI *Darstell. antiker Reliefs w. sich auf Handwerk beziehen* inscripto, tab. xi. 2.¹

Hoc erat sine dubio instrumentum Daedalo inuentori adscriptum. Antiqui quidem ita putabant. Nam in pictura Daedali atque Pasiphaeae Pompeis reperta (*Mus. Borb.* vii, 55; HELBIG. *Wandgemälde*, 1208) arcum terebramque sub Daedali pedibus iacta uidemus, quasi huius propria et peculiaria esse uiderentur.

Alterum quoque licet instrumentum commemorare terebrae similimum quo fabri utebantur; ei nomen erat mamphur; cf. PAVL. FEST. *Excerpt.* p. 132, M.:—

Mamphur appellatur loro circumuolutum mediocris longitudinis lignum rotundum, quod circumagunt fabri in operibus tornandis.

De hoc autem scripsit SCALIGER (*ad Schol. Theocr.* 11, 41) his uerbis:—

Quod est sucula in machina tractoria, id mamphur in torno. Graecum est *μαννοφόρον* quia circumuolutum habeat lorum ut collum monile, quod *μάννον* et *νάννον* uocant Graeci.

Licet fortasse dubitare num recte uir doctissimus u. mamphur a Graeco quod est *μαννοφόρον*, id est monili ornatum, dictum esse putauerit. Veri simile enim esse nobis uidetur in prima syllaba uocabuli mamphur uestigia Latini uocabuli manus esse seruata; cf. u. mamphora, quo significatur sudarium, linteum (DV CANG., *Gloss. Med. et Inf. Lat.*). Sed haec hactenus; nunc de fabrorum terebrae partibus disseremus.

De his primum cf. POLL. 10, 146:—

τέκτονος σκεύη . . . τρύπανον, τρυπανούχος, ἀρίς . . . ἐν δὲ τῇ ἐν Ὀλυμπίᾳ στήλῃ ἀναγράφεται τρύπανα, τρυπανίας ἔχοντα, ἴσως τὴν ἀρίδα.

¹ Hodie etiam eodem instrumento horologiorum artifices uulgo utuntur.

7, 113:—

τὰ δὲ ἐργαλεῖα, τρύπανον, τέρετρον, τρυπανούχος, ἀρίς. Καλλίας γοῦν ἐν Πεδήταις λέγει τῆς πατρικῆς ἀρίδος.

Iis quidem qui Pollucis librum ediderunt u. τρυπανούχος terebrae manubrium significare uidetur; cf. LIDDELL. et SCOTT., *Lex.* s.u. Sed certe errore falluntur; recte enim eo uocabulo significatur uagina in qua terebrae caput uertitur. Nulla enim sunt uocabula quae e nomine et syllabis -οχος siue -ουχος (ab eo unde est ἔχω) ita sunt iuncta ut eius rei nomine designatae partem quandam significant; exempli causa sufficiet u. λυχνούχος, quod lucernae manubrium non significat; cf. uu. κλειδοῦχος, κυνούχος, λαμπαδοῦχος, ταλαντοῦχος, ὀφισοῦχος, ῥαβδοῦχος, σκηπτοῦχος, δρύοχοι atque alia quae multa apud PAPIVM (*Etym. Worterb. Gr. Spr.* p. 204 sq.) reperiri possunt. Itaque uidemus u. τρυπανούχος terebrae manubrium significare non posse.

De uocabulo ἀρίς iidem uiri docti in errore uersantur; nam putant eo significari aliquid terebrae simillimum. Sed recte significat arcum una cum loro quibus terebra circumagi solet; cf. ORIBAS. 4, p. 156 (B. et D.):—

ἔπειτα ἡρέμα τῇ ἀρίδι στρεφείσθω τὸ τρύπανον.

Cf. APOLLOD. *Polioret.* (p. 148 in ed. WESCHERI *Polioretique des Grecs*, cum terebrarum tabulis instructa):—

ἐὰν τάχιον θέλωμεν βαλεῖν τὸ τεῖχος, πυκνοῖς τρυπάνοις διατρήσομεν . . . ἵνα (τὸ τρύπανον) ἀρίδι στρέφηται.

Cf. etiam HIPPOCRATIS locum quem in Lexico citatum definitioni ibi expositae prorsus repugnare uidemus; haec quidem sunt uerba (789 G. Foes.):— καὶ γὰρ ἀρίδα ἐλκύσαιεν.¹

QVOD SI quis mirabitur quid haec pertineant ad ea quae de igne quaeramus, ei satisfaciet res ipsa cognita. Nam ut paucis uerbis absoluamus antiquos dicimus instrumento quod πυρεῖον appellabant eodem modo quo terebra uti esse solitos. Neque uero nescii sumus hoc difficile esse probatu, si ad scriptorum uerba tantum modo spectemus; in his enim, terebra commemorata, nihil de arcu et loro legimus; in tabulis autem pictis antiquis nihil quod nobis sit auxilio repertum est. Sed primum uerba habemus APOLLONI et FESTI (u. supra, p. 21); sine dubio igitur ignis terebrando excitari solebat; cf. quoque LABBAEVM atque CAROLVM DE AQUINO, infra, p. 28. Prae-

¹ Cf. GOETZ. *Corp. Gloss. Lat. II*, p. 245: apis, arcus.

terea antiquissimis temporibus fabri terebrae usum intellegebant, ut supra diximus; adde etiam quod calorem in hoc usu gigni uidebant;¹ his cognitis haud diu tenuissent illum modum antiquissimum quo ligna inter se teri solebant. Nam summae peruersitatis est, ut aiunt, inuentis frugibus, glande uesci. Deinde si in tabulis pictis nusquam ignem terebra excitari uidemus, nullum uerum id argumentum est; nam eadem ratione nos putare oportebat ne lapides quidem igni elicendo esse usurpatos.

ITAQUE his causis atque scriptorum auctoritate quos infra citabimus iam non dubium uidetur esse quin uocabulo πυρεῖον siue πυρεῖα significari possit terebra maior atque arcus lorum uagina quae ad eam pertineant. Sed cum, ut supra diximus, nihil in tabulis antiquorum pictis repertum sit quod nos de huius instrumenti usu certiores faciat, operae pretium fortasse erit paucas tabulas inspicere quas huius rei causa describendas curauimus (p. 14). In his enim uidere licet quo modo hodie barbari eodem instrumento uti soleant; tabulae autem e TYLORI libro translatae sunt.

In tabula I modum simplicissimum cernimus quo ignis terebrando fieri potest; haudquaquam negare uelimus in hac πυρεῖον exhiberi, sed, ut supra diximus, nobis persuasum est neque Graecos neque Romanos nisi necessitate coactos, sicut cum contra exspectationem foris pernoctandum erat, ignem hoc modo excitare esse solitos. Deinde in tabula II terebram, lorum, τρυπανοῦχον (uaginam) uidemus. Postremo in tabula III exhibentur terebra, arcus, lorum; pro eo autem quod τρυπανοῦχος appellatur, tegula adhibetur.

NUNC demum his cognitis scriptorum testimonia audiamus. Primum igitur THEOPHRASTI inspiciamus locum qui quasi thesaurus nobis est eorum seruatus quae ad rem nostram pertinent. Locus est in *Hist. Plant.* 5, 9, 6 sqq.:² —

πυρεῖα δὲ γίνεται μὲν ἐκ πολλῶν, ἀριστα δὲ ὡς φησι Μενέστωρ ἐκ κίττου· τάχιστα γὰρ καὶ πλείστον ἀναπνέει. πυρεῖον δὲ φασιν ἀριστον μὲν ἐκ τῆς ἀθραγένης καλουμένης ὑπὸ τινων· τοῦτο δ' ἐστὶ δένδρον ὅμοιον τῇ ἀμπέλῳ καὶ τῇ οἰάνῳ τῇ ἀγρίᾳ· ὥσπερ ἐκείνα καὶ τοῦτο ἀναβαίνει

¹ Cf. COLVM. *Arbor.* 8, 3: Antiqua terebra scobem facit et propter hoc urit eam partem quam perforat. Nos rursus terebram quam Gallicam dicimus . . . nec urit quod non scobem sed ramenta facit.

² Similia autem uerba idem scripsit in libro DE IGNE inscripto, cap. 64.

πρὸς τὰ δένδρα. (7) δεῖ δὲ τὴν ἐσχάραν ἐκ τούτων ποιεῖν, τὸ δὲ τρύπανον ἐκ δάφνης· οὐ γὰρ ἐκ ταύτου τὸ ποιοῦν καὶ πάσχον, ἀλλ' ἔτερον εὐθὺ δεῖ κατὰ φύσιν, καὶ τὸ μὲν δεῖ παθητικὸν εἶναι, τὸ δὲ ποιητικόν. οὐ μὴν ἀλλὰ καὶ ἐκ τοῦ αὐτοῦ γίγνεται καὶ ὥς γέ τινες ὑπολαμβάνουσιν οὐδὲν διαφέρει. γίγνεται γὰρ ἐκ ῥάμνου καὶ πρίνου καὶ φιλύρας καὶ σχεδὸν ἐκ τῶν πλείστων πλὴν ἐλάας· ὁ καὶ δοκεῖ ἄσπον εἶναι· καὶ γὰρ σκληρότερον καὶ λιπαρὸν ἢ ἐλάα· τοῦτο μὲν οὖν ἀσύμμετρον ἔχει δῆλον ὅτι τὴν ὑγρότητα πρὸς τὴν πύρωσιν. ἀγαθὰ δὲ τὰ ἐκ ῥάμνου· ποιεῖ δὲ τοῦτο καὶ τὴν ἐσχάραν χρηστήν· πρὸς γὰρ τῷ ξηρὰν καὶ ἄχυμον εἶναι δεῖ καὶ μανοτέραν ἢ τὴν τρύψιν ἰσχύει, τὸ δὲ τρύπανον ἀπαθέστερον· δι' ὃ τὸ τῆς δάφνης ἀριστον· ἀπαθὲς γὰρ ὃν ἐργάζεται τῇ δριμύτητι. πάντα δὲ τὰ πυρεῖα βορείους μὲν θᾶπτον καὶ μᾶλλον ἐξάπτεται, νοτίους δὲ ἥττον· καὶ ἐν μὲν τοῖς μετεώροις μᾶλλον, ἐν δὲ τοῖς κοίλοις ἥττον.

His ex uerbis multa uero discimus; primum partium nomina quae in hoc instrumento sunt principes, τρύπανον et ἐσχάρα, — nam hoc loco de arcu loro uagina Theophrasti dicere nihil interfuit, — deinde eorum materiam cognoscere docemur; tum quibus uentis locisque optime ignem πυρεῖα eliciant. De uentis quidem et locis a Theophrasto ipso satis dictum est; de reliquis autem pauca eius uerbis refert addere.

Nomen igitur quod est τρύπανον, Latine terebra, iam supra commemorauimus; alterius partis nomen ἐσχάρα, Latine tabula (cf. FEST., supra, p. 21) a natura sua originem deducit. Materiam autem optimam qua in facienda tabula uti oporteat, hederam esse dicit Theophrastus; plantam quoque alteram aequè conlaudat, cui nomen est ἀθραγένη; hoc autem est, ut ait, δένδρον ὅμοιον τῇ ἀμπέλῳ καὶ τῇ οἰνάνθῃ τῇ ἀγροῖ· ὥσπερ ἐκεῖνα καὶ τοῦτο ἀναβαίνει πρὸς τὰ δένδρα. Hac de planta nihil praeter haec certe intellegimus; confert tamen KVHNIVS (l. l. p. 41) uu. ÂTAR et ÂTARVAN, quae in Persarum antiqua lingua ignem et ignis sacerdotem significant (cf. PLINI locum, infra, p. 27). Tabula quoque bona e rhamno (ῥάμνον) fieri potest; hunc inter ruborum genera commemorat PLINIVS, *N. H.* 24, 124.

Terebram autem optimam e lauro esse faciendam dicit Theophrastus. Verum tamen ex eadem materia, ut ait, terebram tabulamque nonnulli faciunt, nec quicquam referre sunt qui dicant; faciunt enim illa e rhamno, ilice, philyra (sive tilia) atque e plurimis fere praeter oliuam. Sed non ex eodem id quod agat et id quod patiatur fieri optime oportet.

Erit autem utile cum hoc Theophrasti loco conferre PLINI haec uerba (*N. H.* 16, 207 sq.) :—

Calidae (sunt) et morus, laurus, hederæ et omnia e quibus igniaria fiunt. Exploratorum hoc usus in castris pastorumque repperit, quoniam ad excudendum ignem non semper lapidis occasio est. Teritur igitur lignum ligno ignemque concipit attritu, excipiente materie aridi fomitis, fungi uel foliorum facillimo conceptu. Sed nihil hedera praestantius quae teratur, lauro quae terat. Probatur et uitis ex siluestribus alia quam labrusca, et ipsa hederæ modo arborem scandens.

IGNIARIA uocabulum unus ex scriptoribus quos nouimus Latinis Plinius hoc loco atque in libro primo (ubi ea memorauit quae in libro sexto decimo continentur) scripsit. De eius significatione nihil quaerendum est; sine dubio *πυρρα* significat. Sed fortasse quaeretur utrum Romani eo nomine uti sint soliti, an ex Graeco Plinius id uerterit. Sane enim hoc loco, ut ipse (lib. 1, l. l.) nos docet, Theophrastum consulebat et eum studiose sequebatur (u. infra, p. 29). Itaque uiro docto SALMASIO (*Plin. Exerc.* p. 126 G) uidebatur Plinius ex Graeco u. igniaria id temporis uertisse, cum rectius ex consuetudine loquendi u. ignitabulum dici oporteret. De hoc igitur uocabulo pauca nobis sunt exploranda.

Hoc quidem uidetur quasi ab ignitando esse ductum; uerbum autem ab eo quod est ignito apud scriptores non reperitur; cf. tamen uu. uenabulum, infundibulum, pabulum. Instrumentum igitur quo ignis eliciatur hoc significare oportet. Contra autem FESTVS, apud quem primum uocabulum repperimus, ita interpretatur (PAVL. *Excerpt.* p. 108 M.) :—

ignitabulum : ignis receptaculum.

Vas igitur esse id intellegit in quo ignis contineretur; cf. *Vulg. Exod.* 27, 3 :—

forcipes atque fuscinulas et ignium receptacula, omnia uasa ex aere fabricabis.

Nobis autem uidetur scriptorem quem Festus sequebatur—si recte Paulus huius uerba tradidit—hoc male interpretatum esse; nam cum u. turibulum turis receptaculum significet, illud non a uerbo sed a nomine ductum est; eodem modo u. *ignibulum*—ut uocabulo nouato utamur (cf. u. *igniculus*)—non *ignitabulum* ignis receptaculum significare oportet. SOLINVS autem, qui non multo post Festum

fuit, uocabulo ignitabulum πυρεῖον significari sine dubio putabat ; nam scripsit (11, 19) : —

Delos appellatur . . . Pyrpile,¹ quoniam et ignitabula ibi et ignis inuenta sunt.

Deinde apud Gellium atque Macrobius locos duos inter se similis citare licet : —

GELL. 15, 2, 3 : (Plato) fomitem esse quendam dicens et ignitabulum ingenii uirtutisque, si mens et corpus hominis uino flagret.

MACR. S. 2, 8, 4 : Plato aestimauit fomitem esse quendam et ignitabulum ingenii uirtutisque, si mens et corpus hominis uino flagraret.

Hi sunt omnes loci in quibus apud scriptores antiquos u. ignitabulum exstat ; quibus cognitis fortasse quispiam dicet hoc non instrumentum ligneum πυρεῖον significare, sed potius lapides siue lapidem cum ferro, quibus ignis excudi soleat. Primo quidem aspectu hoc ueri simile esse uidetur, sed aliter ab iis decernitur qui uocum Graecarum et Latinarum glossaria uetera conlegerunt. Neque nescii sumus iis haud multum auctoritatis esse fere concedendum ; nunquam fortasse eorum indicia, quae scriptorum uerbis antiquorum repugnare uidentur, recte sunt nobis accipienda. Sed saepe acciderit ut, cum de aliqua re scriptores ipsi nihil certe tradiderint, tum apud eos qui glossas scripserint uerum discamus ; hi enim multos antiquorum libros habebant qui nobis omnino desunt. Praeterea nescimus quanta ab antiquitate origines glossarum sint repetendae ; quippe cum tempore GELLI (cf. 18, 7, 3) homines eas conligere iam coeperint. Itaque de ignitabulo, cum e scriptorum antiquorum uerbis intellegi non possit utrum ligneum an lapideum fuerit, glossariorum arbitrio rem permittere licet, praesertim cum haec inter se concinant. In *Onomastico Vetere* (cf. LABBAEI *Gloss. Lat.-Graec.* et DV CANGI *Gloss. Med. et Inf. Lat.* s.u.) u. ignitabulum ita explicatur : —

ignitabulum : δαδὸς ῥαβδίον πυροστροφόν, πυρεῖον.²

Deinde CAROLVS DE AQVINO in *Lex. Militari* (apud DV CANGIVM, *ibid.*) haec scripsit : —

ignitabulum exponit lignum duplex quorum alterum leuius et rarius substernebatur, atque ab alio duriore et in terebrae formam facto tamdiu perforabatur donec excitato calore ignem eliceret.

¹ Cf. PLIN. *N. H.* 4, 66.

² Cf. GOETZ. *Corp. Gloss. Lat. II*, p. 76 : ignitabulum δαδοσραβδίον· πυροστροφόν.

Videmus igitur u. ignitabulum significare *πυρῆιον*, id est instrumentum ligneum quo ignis terebrando eliciebatur. Haec autem Solini sententiae quadrant (cf. supra, p. 28), qui ignem hoc modo primum esse factum sine dubio putauit. Licet etiam addere u. *πυροστρόφον* (cf. uu. *καλωστρόφος*, *σχοινιοστρόφος*, *οἰακοστρόφος*) quod in *Onomastico Vetere* legitur ad usum terebrae igni eliciendo perspicue spectare.

SED ut ad quaestionem quam supra (p. 27) instituimus nunc redeamus, nobis non ueri simile esse uidetur Plinium u. igniaria adhuc ignotum finxisse, ut e Graeco *πυρῆια* uerteret. Nam Plinius eum librum scribebat quem facilem esse ad intellegendum uellet, ut in praefatione ait ipse his uerbis (*praef.* 6) : —

humili uulgo scripta sunt, agricolarum, opificum turbae, denique studiorum otiosis.

Itaque in loco de quo agitur uocabulo sermone trito uti oportuit. Sed fortasse quaeret quispiam quid sit quod uocabulo illo ignitabulum non utatur; nam non recte dicas quod primum apud Festum atque Solinum id uocabulum reperitur, igitur Romanos tempore Plini eo uti non esse solitos. Nam primum notum est Festum in libro suo nihil nobis tradidisse nisi quae apud Verrium Flaccum, qui diui Augusti tempore fuit, scripta inuenerit (cf. TEUFFEL., *R. L.* p. 566); deinde scriptores Romae fuerunt nulli, quos nouimus, qui, sicut Theophrastus, ignem in libris tractarent; accidit quoque ut pauci in tropis quos ornandae orationis gratia adhibebant ignem atque huius instrumenta commemorarent. Nemo autem his causis adductus negare uelit ignem terebrando esse factum; instrumento igitur quo fieri solebat sine dubio nomen aliquod datum est. Erant fortasse duo nomina, quibus sine multo discrimine utebantur. Ex iis autem Plinius hoc scripsit quod, cum propius ad Theophrasti uocabulum accederet, primum in mentem uenit. Itaque nobis uidetur instrumentum quod Graece erat *πυρῆιον* Romanos siue igniarium siue ignitabulum appellare potuisse.

NUNC uero ad Plini locum redeamus quem supra (p. 27) tractabamus. Eandem fere materiam quam Theophrastus commemorat; terebram enim e lauro, tabulam ex hedera facere iubet. Probatur etiam, ut ait, uitis ex siluestribus alia quam labrusca, et ipsa hederæ modo arborem scandens. His uerbis plantam *ἀθραγγην* (u. supra, p. 26) designat, cum alia quam labrusca sit; similem tamen ei esse dicit Theophrastus. Nam labruscam, quae est uitis siluestris

(cf. PLIN. *N. H.* 14, 98), Græci ἀμπελον siue οἰνάνθην ἀγρίαν appellabant (THEOPHR. l.l.).

NUNC demum locos inspiciamus in quibus apud scriptores antiquos instrumenti πυρείον usus commemoratur; illos autem temporis ordine ita instruximus ut a saeculo ante Christum natum quinto ad nostrae aetatis saeculum sextum extendant.

PRIMUM igitur de uersibus carminis ad Mercurium inscripti (u. supra, p. 20) inter omnis fere nunc conuenit, ut ait BAVMEISTERVS (in ed. *Hymn. Hom.*), post u. παλάμη nonnulla intercidisse ut horum uersuum descriptio sit manca. Sine dubio quidem uu. ὄζον δάφνης ad terebram spectant, tabulae autem descriptio deest. Sed bene hos uersus interpretatur Gemoll. (*Hymn. Hom.* ed. 1886, pp. 212 sq.), nisi quod de u. στορεὺς significatione haud recte scripsit (u. infra, pp. 32 sqq.).

SECUNTVR aliorum scriptorum loci: —

SOPHOCLES *frag. Phineci alterius* (apud Hesych. s.u.): —

ἀχάλκευτα τρύπανα.

Terebras ligneas ad usum πυρείων idoneas dicit; fabrorum enim terebras ex aere fieri oportuit. Eodem fere modo Orestes (AESCH. *Cho.* 493) loquitur: —

πέδαις γ' ἀχαλκεύτοισι θηρευθεῖς, πάτερ.

PLATONIS *Rep.* p. 435 A: —

καὶ τάχ' ἂν ἄλληλα σκοποῦντες καὶ τρίβοντες ὥσπερ ἐκ πυρείων ἐκλάμψαι ποιήσαιμεν τὴν δικαιοσύνην.

XENOPHONTIS *Cyr.* 2, 2, 15: —

ἐπεὶ ἐκ γε σοῦ πῦρ, οἶμαι, ῥᾶον ἂν τις ἐκτρίψειεν ἢ γέλωτα ἐξαγάγοιτο.

THEOPHRASTI *Ig.* 1: —

ἐτι δὲ αἱ γενέσεις αὐτοῦ (τοῦ πυρός) αἱ πλείσται οἶον μετὰ βίας· καὶ γὰρ ἡ πληγὴ τῶν στερεῶν ὥσπερ λίθων, ἡ θλάψει καὶ πιλῆσει καθάπερ τῶν πυρείων. . . .

Id. *Ig.* 29: —

ἐκ μικρῶν γὰρ συνιόντων ὥσπερ ναματίων καὶ ἡ φλόξ γίγνεται. διὸ καὶ τὰ πυρεία τῇ τρύψει τὸ αὐτὸ ποιεῖ.

Addere licet THEOPHR. *Ig.* 63, infra, p. 36.

THEOCRITI *Id.* 22, 32: —

ἐκβάντες δ' ἐπὶ θίνα βαθὴν καὶ ὑπήνεμον ἀκτὴν
εὐνάς τ' ἐστόρννυτο πυρεία τε χερσὶν ἐνώμων.

APOLLONI atque DIODORI locos iam supra citauimus (p. 21).

SENECAE *Q. N.* 2, 22 : —

Videamus quem ad modum fieri soleat ignis apud nos, duobus modis: uno si excitatur, sicut ex lapide percusso; altero si attritu inuenitur, sicut cum duo ligna inter se diutius fricta sunt. Non omnis hoc tibi materia praestabit, sed idonea eliciendis ignibus, sicut laurus, hederæ et alia in hunc usum nota pastoribus.

PLINI atque FESTI locos iam supra citauimus (pp. 27, 21).

LUCIANI *V. H.* 1, 32 : —

ὕστερον δὲ ἀναστήσαντες τοὺς ἐταίρους τὴν μὲν ναὺν ὑπεστηρίξαμεν, αὐτοὶ δὲ τὰ πυρεῖα συντρίψαντες καὶ ἀνακαύσαντες δείπνον ἐκ τῶν παρόντων ἐποιούμεθα.

Scholiasta autem u. *πυρεῖα* hoc loco ita interpretatur: τοὺς πυρεκβολίτας λίθους. Neque negari potest lapides ex quibus ignis excudi solebat nonnunquam *πυρεῖα* appellari (u. infra, p. 35); nobis tamen hoc loco atque apud Platonem, Xenophontem, Theocritum (p. 30), uidetur ligni usum rectius esse intellegendum. Verba enim Theocriti atque Luciani ad mores antiquos, Platonis et Xenophontis ad usitatum genus dicendi quod ab ultima antiquitate traditum erat, haud dubie spectant. Praeterea etiam Galeni tempore u. *πυρεῖον* instrumentum ligneum perspicue designabat; cf. GALEN. 1, p. 658 (ed. Kuehn.) : —

ἀνάπτεται δ' ἐτοίμως ὑπὸ πυρεῖον καὶ ἔριον καὶ στνππεῖον καὶ θρυαλλίς καὶ νάρθηξ, καὶ πᾶν ὃ τι ἂν ὁμοίως ἢ ξηρὸν καὶ χαῦνον. ἐξάπτουσι δὲ φλόγα καὶ λίθοι παρατριβόμενοι. . . .

SIMPLICI *Comm. ad Arist. Cael.* 3, 3, 3 (p. 268, ed. Karsten.) : —

ἀπὸ δὲ ξύλων πῦρ ἐκβάλλουσιν, τὸ ἕτερον ξύλον ὡς τρύπανον ἐν τῷ ἑτέρῳ περιστρέφοντες.

Quare autem hoc loco Salmasius et Kuhnus¹ u. *τέρετρον* pro u. *τρύπανον* scripserint, non liquet. Nusquam enim apud scriptores dicitur Graecos *τερέτρῳ* eliciendis ignibus uti solere.

Apud SVIDAM scriptor ignotus s.u. *πυρεῖα* : —

οἱ δὲ Ἕλληες κατέλιπον πυρεῖα καὶ δᾶδα, δόντες Σίνωνι σκοπὸν ἐσόμενον². ὃ δὲ τὰ πυρεῖα καὶ τὸν πυρσὸν ἀνίσχει τοῖς πολεμίοις.

¹ Frustra PLANCKIUS (p. 11) u. *τέρετρον* scribit, editione Karsteni quam citat non consulta.

² Corruptus est hic locus.

His in locis apud scriptores antiquos instrumentum ligneum *πυρεῖον* commemoratum reperire potuimus. Quod si recte a grammaticis traditum est, aliud erat nomen ad hanc rem pertinens quod nondum tractauimus. Nam SCHOLIASTA quidam ad APOLLONIVM (l.l.) haec uerba scribebat : —

δινεύεσκον· ἀντὶ τοῦ ἱστρεφον, παρέτριβον. τὰ γὰρ ξύλα παρέτριβον καὶ ἀπ' αὐτῶν πῦρ ἔβαλλον. πυρήϊα γὰρ ταῦτά φησι τὰ προστριβόμενα ἀλλήλοις πρὸς τὸ πῦρ ἐγγενᾶν. ὦν τὸ μὲν ἐστὶν ὕπτιον, ὃ καλεῖται στορεὺς· θάτερον δὲ παραπλήσιον τρυπάνω, ὅπερ ἐπιτρέβοντες τῷ στορεῖ στρέφουσιν.

Itaque SALMASIO (*Exerc. Plin.* p. 126), STEPHANO (*Thes.* s.u.), MOMMSENIO (*Gesch. des Rom.* I, I, 2), LIDDELLIO atque SCOTTO (*Lex.* s.u.) atque multis aliis¹ uidetur tabula (ἑσχάρα) nonnunquam Graece στορεὺς appellari. Sed his opponitur testimonium apud HESYCHIVM² s.u. στορεὺς ita traditum : —

στορεὺς· γαληνοποιός· καὶ τὸ ἀντὶ τοῦ σιδήρου τρύπανον ἐμβαλλόμενον ξύλον ῥάμνου ἢ δάφνης.

Sic enim in codice uerba reperiuntur ; recte autem uidit Guyetus pro u. σιδήρου τρύπανον esse scribenda σιδηροῦ τρυπάνου. Verba igitur uertimus : —

στορεὺς· is qui tranquillitatem dat ; et lignum arboris rhamni uel lauri, quod ferreae terebrae uice (alicui³) inseritur.

Eodem sensu positum u. ἐμβάλλειν repperimus apud PLAT. *Prot.* 343 D, *Crat.* 414 C. ; cf. [DEM.] p. 1251, 22. Apud Hesychium igitur u. στορεὺς terebram non tabulam significare dicitur, neque apud scriptores alios id uocabulum reperire potuimus. Itaque perdifficilis est haec quaestio ; pauca tamen, quae poterimus, de ea subiciemus.

PRIMUM dicimus u. στορεὺς ab eo quod est στορέννυμι esse deriuatum, ut proprie significet eum qui aliquid sternat ; itaque recte apud Hesychium u. γαληνοποιός explicatur (cf. ἐστόρησεν πόντον, HOM. *Od.* 3, 158 ; THEOCR. 7, 57 ; κτλ.). Eandem significationem habet u. στορεστής quod in epigrammate SCL. IGNATI reperitur (*A. P.* I, 118) : —

ἀλλ' ὃ γαλήνη καὶ στορεστὰ τῆς ζάλης,
σύ, Χριστέ, —

¹ Cf. PLANCK. p. 12.

² Sententiam Hesychi Planckius (p. 15) nullo argumento usus damnare uult.

³ Sc. manubrio terebrae?

Hactenus recte apud Hesychium explicatur, sed mox additur id nomen esse terebrae datum, cui adsentitur KVHNIVS (l.l. pp. 38, 77). Non autem dicit quo modo u. *στορεύς* instrumentum ad terebrandum factum significare possit; putat tamen comparisonem quandam inter terebram et membrum uirile esse institutam (cf. KVHN. p. 78 sqq. de rebus sacris Indorum) ut terebra nomen acciperet a uirili membro.

Sed non uidet uir doctus ex instrumento *στορεῖ* membrum, neque ex membro instrumentum nomen accepturum fuisse (cf. u. *ἐσχάρα* (tabula) sensu obsceno dictum apud ARISTOPH. *Eq.* 1286). Haud uero exemplis comprobari potest u. *στορεύς* ad talia spectare, neque instrumentum ad terebrandum factum significare. Scholiastae quoque sententia duobus partibus quasi claudicare uidetur; nam primum u. *στορεύς* actium est, ut illum qui sternit non illam quae sternitur (tabulam) significet;¹ omnia enim nomina quae syllaba *-eus* terminantur actiue dici solent. Praeterea THEOPHRASTVS (*H. P.* 5, 9, 7, supra, p. 26) tabulam esse *παθητικὴν* expresse dicit. Deinde Hesychius instrumentum *στορέα* e ligno arboris rhamni uel lauri facere iubet; hoc quidem, cum ad terebram spectet, uerbis Theophrasti atque Plini magis consentit, qui tabulam e lauro esse faciendam nunquam dixerunt.

VIDEMVS igitur uerba Hesychi et Scholiastae nullo modo ita explicari posse ut inter se congruant. Quod si nihil certi apud eos reperiri potest, fortiter hercule ab iis discedamus. Recte enim nos monuit conlega doctissimus u. *στορεύς* nihil ad instrumentum *πυρέα* pertinere cum pro eo u. *τορεύς* legi oporteret. Hoc enim instrumentum terebrae simillimum significauit; cf. *Anth. Pal.* 6, 205:—

τρύπανά τ' ἐνδύνητα καὶ ὠκίηντα τέρετρα
καὶ γόμφων οὔτοι τοὶ πίσυρες τορεές.

Cf. POLL. 10, 149; PHILYLL. ap. POLL. 7, 192.

PVTAMVS igitur explicationes apud Hesychium et Scholiastam traditas e glossa ueteri originem duxisse, in qua u. *στορεύς* pro *τορεύς* ex errore erat scriptum; fortasse hac causa id acciderat quod in exemplare ex quo glossa illa transcribatur ante u. *τορεύς* s littera posita erat. Neque mirum est si de u. *στορεύς*, nusquam reperto nisi in glossis illis, Hesychius et Scholiasta, rei ipsius imperiti, in errore uer-

¹ Frustra igitur PLANCKIUS (p. 12) ita interpretatur: das eine war ein flaches, *ἔπιον*, eine tabula, als Hingebreitetes *στορεύς* genannt.

santur. Notum uero est scholiastarum qui Apolloni libros explicabant duo esse genera (cf. BERNHARD. *Grundr. der Gr. Litt.* 2, 1, p. 312, ed. 1857); eorum alteri haud multo post illius mortem adnotationes scribebant. Libros enim illos editos continuo omnes mirabantur; cum autem Homeri sermonem imitarentur, multa fuerunt quae adnotationibus explicanda essent. Haudquaquam uero illi ueteres uocabula quae in ore omnium essent, sicut *πυρεία*, tractauissent. Sed scholiastarum genus alterum, quos recentis appellare licet, temporibus multo posterioribus ea quae suae aetati aliena essent omnia inlustrabant. Itaque nostra quidem sententia accidit ut in adnotatione, quae nunc in quaestione uersatur, utriusque generis exemplum reperiamus. Scholiasta enim uetus u. *διενέσκον* explicauit; hoc uero apud Homerum solum reperitur (*Il.* 24, 12); fortasse igitur scholiasta uetus haec scribebat: *διενέσκον · ἀντὶ τοῦ ἔστροφον*. Cetera autem putamus ab interprete recentiore esse addita, iam cum instrumenti *πυρείου* paene exoleuerat usus. Huius igitur auctoritas haud multum ualet. Nunc ad Hesychium nos conuertimus. Is quidem saeculo post Christum natum quarto fuisse creditur; ei autem nihil uerae sapientiae inerat, sed ex aliorum libris glossaria conlegit et lexdia, res taetras, ut ait Fauorinus, et inanes et friuolas tamquam mulierum uoces praeficarum. Frustra igitur inter Scholiastae et Hesychi auctoritatem diiudicare conemur. Videmus tamen hunc quidem uocabuli *τορεύς* significationem recte tradidisse, illum autem omnino negotio deesse. Apud Hesychium igitur uerba quae u. *γαληνοποιός* secuntur ita sunt transducenda ut s.u. *τορεύς* legantur; sed Scholiastae uerbis nihil credendum est.

Postremo licet addere nullum esse uocabulum Graecum litteris *στορ-* uel *στορ-* initium capiens quod instrumentum ad terebrandum factum significet. Aliter tamen primo aspectu uidetur spectare u. *στορόνη*, quod in Lexico Graeco (L. et S.) instrumentum medicorum praeacutum significare dicitur. Sed recte in loco ARETAEI medici (*Cur. Morb. Diut.* 1, 2) qui in Lexico citatur, u. *στορόνη* emendauit Emerius (ARETAEI *Opera*, ed. 1847) ut pro eo nunc u. *τορόνη* esset scribendum. (Cf. *The Extant Works of Aretaeus*, ADAMS, 1856; et de u. *τορόνη* cf. Foesi *Oecon. Hippocratis*, s.u. *τορυνών*.) Nam apud Aretaeum de eo instrumento agitur quo aliquid agitur; id uero *τορόνη* neque *στορόνη* appellatur; cf. AR. *Aues.* 78, 79; *Eq.* 984; POLL. 10, 97. Sed de u. *στόρθυγξ* cf. CVRT. *Gr. Etym.* p. 213.

NUNC uero, quoniam de ligni attritu explicauimus, de duorum lapidum ignibus eliciendis usu quaeramus. Apud SOPHOCLEM (*Phil.* 295) hoc primum commemoratur. Exstat quoque apud PLINIVM (*N. H.* 7, 198) fabula de Pyrode quodam narrata, qui e silice ignem primum, ut aiunt, excudere docuit. Constat quidem antiquissimis temporibus ignem hoc modo fieri esse solitum; hodie quoque Graeci id factitant; cf. BENIZEAON, *περὶ τοῦ ἰδιωτικοῦ βίου τῶν ἀρχαίων Ἑλλήνων*, p. 27.

ἐκφαίνουσι φῶς διὰ τὴν συγκρούσεως δύο σκληρῶν λίθων.

Πυρεῖα etiam lapides quibus eliciendo igni utebantur Graeci nunquam appellabant; cf. THEOPHR. *Ig.* 63, infra, p. 36; SOPH. *Phil.* 35, infra; *Etym. Mag.* s.u. πυρήια : —

πυρήια· τινὲς δὲ τοὺς πυροβόλους λίθους.

Sed hoc proprie de lignis esse dictum comprobatur THEOPHR. *Ig.* 1 (supra, p. 30). Romani autem utrum hos lapides igniaria nominare sint soliti necne nescimus; bis enim modo, ut supra dictum est (p. 27) u. igniaria apud scriptores repperimus. Igniarium lapidem tamen commemorat MARCELLVS EMPIRICVS (33) his uerbis : —

Lapidem igniarium contusum resinae mixtum pro emplastro impone ramicoso, statim proderit.

Lapidum uero usu citius quam lignorum attritu ignis elici potuit; cf. THEOPHR. *Ig.* 63 (infra, p. 36); PLIN. 16, 208 (supra, p. 27). Non esset operae pretium disserere de modo quo iis uterentur; sane omnibus constabit conflictu et tritu (Graece *πληγῇ* et *ἐκτρίψει* siue *ἐκθλίψει*) id fieri; cf. CIC. *N. D.* 2, 25 : —

Nam et lapidum conflictu atque tritu elici ignem uidemus.

Cf. THEOPHR. *Ig.* 1 (supra, p. 30); SOPH. *Phil.* 296 (infra, p. 36); GAL. 1, p. 658 (supra, p. 31).

NUNC de lapidum usu scriptorum testimonia audiamus.

SOPHOCLES *Phil.* 35 : —

αὐτόξυλόν γ' ἐκπωμα, φλαουρουγοῦ τινος
τεχνήματ' ἀνδρός, καὶ πυρεῖ' ὁμοῦ τάδε.

His uerbis Neoptolemus dicit se πυρεῖα uidere quibus Philoctetes ignem excudere soleat; haec autem lapides erant, neque instrumentum ligneum, ut in *Lexico Graeco* (L. et S., s.u.) et apud KVHNIVM

(l.l. p. 37) et GOELL. (*Charicles*, III., p. 89) male explicatum est. Nam infra (295) Philoctetes ipse ita loquitur : —

εἶτα πῦρ ἂν οὐ παρήν,
ἀλλ' ἐν πέτροισι πέτρον ἐκτρίβων, μόλις
ἔφην' ἄφαντον φῶς, ὃ καὶ σφίξει μ' αἰεί.

ARISTOTELES (*P. A.* 2, 9, 10) de leonis ossibus haec dicit : —
οὕτω γὰρ ἔχει ταῦτα σκληρὰν τὴν φύσιν ὥστ' ἐξάπτεσθαι τυπτομένων,
καθάπερ ἐκ λίθων πῦρ.

THEOPHR. *Ig.* 63 : —

διὰ τί δ' ἐκ μὲν ξύλων γίγνεται πυρεῖα καίπερ οὐκ ἐκπηδῶντος πυρός, ἐκ δὲ λίθων ἐκπηδῶντος ἦττον γίγνεται ; τοῦτο δὲ οὐκ ἀληθές, ἐκ πολλῶν γὰρ γίγνεται μᾶλλον καὶ θάττον¹ (u. supra, p. 35). οὐ μὴν ἀλλ' εἴπερ, ἐκείνην ὑποληπτέον τὴν αἰτίαν ὅτι τὸ μὲν ξύλον εὐθὺς ὑπεκκαῖον ἔχει συγγενῶν ἐνότων τῷ πυρί. κἂν μὴ παρῇ τοιοῦτον, θάττον πυροῦται δι' ἀσθένειαν. ὁ δὲ λίθος οὐκ ἔχει κατάξηρος ὤν. διὸ καὶ τῷ ἐκπηδῶντι πεπυρωμένον προσάγουσιν.

Cf. THEOPHR. *Ig.* 1 (supra, p. 30).

LVCRETIVS, 6, 160 sqq. : —

Fulgit item, nubes ignis cum semina multa
excussere suo concursu ; ceu lapidem si
percutiat lapis. . . .

VERGILIUS, *A.* 1, 174 : —

ac primum silici scintillam excudit Achates
succepitque ignem foliis. . . .

Id. *G.* 1, 135 : —

ut silicis uenis abstrusum excuderit ignem.

OVIDIVS, *F.* 4, 795 : —

pars quoque, cum saxis pastores saxa feribant,
scintillam subito prosiluisse ferunt :
prima quidem periit, stipulis excepta secunda est.
hoc argumentum flamma Parilis habet ?

¹ PLANCKIUS tamen ita scribit (p. 8) : die Griechen bedienten sich in der historischen Zeit nur der Reibehölzer.

SENECA, *Q. N.* 2, 22 (supra, p. 31).

PLINIVS, *N. H.* 2, 113 : —

posse et (fulmen) conflictu nubium elidi, ut duorum lapidum, scintillantibus fulgetris.

PHILOSTRATVS, *Imag.* 2, 24, p. 849 : —

ἀγαθοὶ δ' ἐμπυρεύεσθαι καὶ οἱ λίθοι.

NONNVS, *D.* 2, 493 : —

ὡς λίθος ἀμφὶ λίθῳ φλογερὴν ὥδινα λοχεύων
λάινον ἡκόντιζε πολυθλιβὲς αὐτόγονον πῦρ
πυρσογενὴς ὅτε θήλυσ ἀράσσεται ἀρσενι πέτρῳ.

Cf. NONN. *D.* 37, 59 sqq., infra, p. 40.

NEQUE uero omnes lapides pariter hoc efficiunt, sed eorum duo genera, pyrites et silex appellata. Pyrites autem est lapis quidam in metallis inueniri solitus ex quo cyprium excocunt ; cf. DIOSCOR. 5, 143 : —

πυρίτης εἶδος ἐστὶ λίθου ἀφ' οὗ χαλκὸς μεταλλεύεται. ληπτέον μέντοι τὸν χαλκοειδῆ, εὐχερῶς δὲ σπινθήρας ἀφίεντα.

PLINIVS autem (*N. H.* 36, 137 sqq.) haec scripsit : —

In Cypro eum (pyriten) reperiri uolunt metallis quae sunt circa Adamanta. . . . Plurimum ignis habent ii quos uiuos appellamus — ponderosissimi sunt hi — exploratoribus castrorum maxime necessarii, qui clauo uel altero lapide percussi scintillam edunt, quae excepta sulphure aut fungis aridis uel foliis dicto celerius praebet ignem.

Cf. ISID. *Or.* 16, 4, 5 : —

Pyrites uulgaris quem uiuum lapidem appellant, qui ferro uel lapide percussus scintillas emittit. . . . Hunc uulgus focarem petram uocat.

HESYCHIVS autem eum lapidem πυρίτιδα appellat : —

πυρίτις · λίθος ἀφ' οὗ πῦρ τίκεται.

SILICEM uero, cuius usus apud maiores nostros frequentissimus erat, VERGILIUS (*A.* 1, 174 ; *G.* 1, 135 ; supra, p. 36) atque ISIDORVS commemorant.

ISID. *Or.* 16, 3, 1 : —

Silex est durus lapis, eo quod exsiliat ignis ab eo dictus.

Denique in loco NONNI (*D.* 2, 493 sqq., supra) inter lapides duos distinctum est ut mas alter, alter femina appellaretur. Idem

fit in loco ANTIOCHI MONACHI (1480 c), quo etiam lapides *πυροβάλοι* uocantur : —

ὥσπερ οἱ πυροβάλοι λίθοι . . . ἐὰν ἐγγίῃ τῷ ἄρρενι ἢ θήλυι, ἀνάπτειται πῦρ.

Cf. *Etym. Mag.* s.u. *πυρήμα* (supra, p. 35). Exstat quoque glossa in codice Laurentiano Sophoclis (*Phil.* 36) quae uocabulo *πυρόβoλα* (scrib. *πυροβόλα*) u. *πυρεῖα* explicat.

NUNC ad tertium ignis eliciendi modum uenimus ; ferro enim lapis percussus scintillas emittit, quae fomitibus exceptae ignem praebent. Sed rarissimus praeter exspectationem hic usus erat, si scriptorum auctoritas in hac re omnino quidquam ualeat. Apud LUCRETIVM id primum commemorari repperimus his uerbis (6, 160) : —

fulgit item, nubes ignis cum semina multa
excussere suo concursu ; ceu lapidem si
percutiat lapis aut ferrum ; nam tum quoque lumen
exilit et claras scintillas dissipat ignis.

Similiter in eodem libro (314) ita loquitur : —

ut, lapidem ferro cum caedimus, euolat ignis.

Sed non dubium est quin multo ante Lucretium intellectum sit ignem hoc modo fieri posse ; non tamen dicere audeamus Graecos saeculo ante Christum natum quinto id factitasse, cum exempla desint. Romanos autem clauo uel alio ferro usos ignem e lapide excudere esse solitos auctor est PLINIVS (*N. H.* 36, 138, supra, p. 37). Eadem fere dicit ISIDORVS (*Or.* 16, 4, 5, supra, p. 37), ex quo etiam discimus lapidem esse pyriten ; silice quoque haud dubie utebantur (cf. ISID. *Or.* 16, 3, 1, supra, p. 37). Chalybis autem in hac re usum scriptores non commemorant ; eum tamen Graeci hodie usurpant ; cf. BENIZEAON, p. 27 : —

ἐκφαίνονται φῶς διὰ τῆς συγκρούσεως δύο σκληρῶν λίθων, ἢ λίθου καὶ χάλυβος οὗς ὀνομάζουσι πυροβόλα.

His uerbis uidemus silicem una cum chalybe *πυροβόλα* Graecos recentis appellare, eodem nomine usos quo maiores designabant lapides duos quorum conflictu ignis excudebatur. Veri simile esse uidetur etiam antiquos silicem una cum ferro *πυροβόλα* uocauisse,

quamquam exempla desunt. De uocabulo autem πυρεκβόλον haud certe scimus utrum silicem una cum ferro an lapides duos significet; tribus enim modo locis reperitur, neque inter significationes duas diiudicari potest. Nam CONSTANTINVS PORPHYROGENITVS (*De Cer. Byz. Aul.* p. 471, 17) inter ea quae in expeditiones militibus sint deferenda haec commemorat:—

πυρεκβόλον μετὰ ἱσκάς.

Similiter LEO PHILOSOPHVS (*Tact.* 5, 4) in reliquo militum apparatu πυρεκβόλα καὶ ἱσκάς includit (de uu. ἱσκα atque ἱσακα inter fomitum genera infra disseremus). Cf. quoque ALEXANDRI APHRODISIENSIS *Probl.* 1, 38 (Ideler.):—

ἐπὶ τῆς παρατρέψεως τῶν νεφῶν ἐν χειμῶνι, πληγῆς τικτομένης τῆς λεγομένης βροντῆς καὶ ἐκπυρώσεως λεγομένης ἀστραπῆς, ὡς ἐπὶ πυρεκβόλων, πρῶτον ὀρώμεν τὴν ἀστραπὴν. . . .

At perperam Constantini locum interpretatur REISKIUS, qui eius librum edidit, cum putet u. πυρεκβόλα instrumentum ligneum πυρεῖον significare. Eodem modo u. πυρεκβόλον explicat ST. IOHN. (*Hellenes*, 2, p. 123). Sed non est dubium quin Constantini tempore qui saeculo aetatis nostrae decimo regnabat, eius instrumenti usus iam pridem exoleuerit. Recte nobis uidetur uocabulis silice una cum chalybe u. πυρεκβόλα interpretatus esse uir doctissimus atque apud nos grauiter legendus E. A. SOPHOCLES (*Lex.* s.u.).

HACTENVS de tribus modis scripsimus quibus ignis fieri possit; restat quartus, ut ex solis radiis eliciatur. Hunc autem antequam explicemus magis conuenit pauca dicere de fomitum usu, quos supra nonnullis locis commemorauimus. Necesse enim fuit ut scintillae ex ligno (πυρεῖον) uel lapidibus elicitaе in aridissima materia susciperentur; haec autem fomes appellabatur. Deinde flammae uiribus iam confirmatae cremia (u. infra, p. 42) atque stipites inciebantur. Sed haec foris fiebant; in domibus quidem, cum in fomitibus ignis calecebat, inciebantur carbones. De his autem nihil dicemus; Theophrastus enim satis dilucide exposuit quomodo pararentur (*H. P.* 5, 9).

NUNC ad fomitum genera nos conuertimus. Haec constat fuisse uaria, aridissimam autem materiem esse oportuit. Tria genera commemorauit PLINIUS his uerbis:—

N. H. 36, 138 : — (Pyritae) clauo uel altero lapide percussi scintillam edunt quae excepta sulphure aut fungis aridis uel foliis dicto celerius praebet ignem.

N. H. 16, 208 : — teritur ergo lignum ligno ignemque concipit attritu, excipiente materie aridi fomitis, fungi uel foliorum facillimo conceptu.

Cf. *VERG. A.* 1, 174 sqq. : —

ac primum silici scintillam excudit Achates
succipitque ignem foliis atque arida circum
nutrimenta dedit, rapuitque in fomite flammam.

Tria igitur habemus fomitem genera, sulphur, folia arida, fungos. Optimo iure sulphure (Graece *θεῖον* uocatur) utebantur; nulla enim res, ut ait *PLINIVS* (*N. H.* 35, 177), facilius accenditur. Lapidēs quoque duo, cum sulphure interstrato sunt inter se triti, celeriter ignem praebent; cf. *GAL.* 1, p. 658 (*Kuehn.*) : —

ἐξάπτουσι δὲ φλόγα καὶ λίθοι παρατριβόμενοι, καὶ μᾶλλον ἂν θείου τις αὐτοῖς ἐπιπάσση.

Cf. *NONN. D.* 37, 56 sqq. (ed. *Koechl.*) : —

ἔνθα πυρὸς χρέος ἔσκε· φιλοσκοπέλοιό δὲ Κίρκης
Φαῦνος ἐρημονόμος . . .

πυργοτόκους λάιγγας, ὀρειάδος ὄργανα τέχνης,
ἤγαγεν ἐκ σκοπέλοιό, καὶ, ὀππόθι σήματα νίκης
ἠερόθεν πίπτοντες ἐπιστώσαντο κερανοί,
λείψανα θεσπεσίου πυρὸς ἤγαγεν, ὥς κεν ἀνάψῃ
πυρκαϊὴν φθιμένοι· Διοβλήτῳ δὲ θεείῳ
ἀμφοτέρων ἔχρισε λίθων κενέωνας*
πυρσοτόκων· καὶ λεπτὸν Ἑρυνθραίου κορύμβου
κάρφος ἀποξύσας διδυμάονι μίγνυε πέτρῳ·
τρίβων δ' ἔνθα καὶ ἔνθα καὶ ἄρσενι θήλην ἀράσσω
ἐγκρυφον αὐτολόχευτον ἀνείρνε λαΐνεον πῦρ,
πυρκαϊῇ δ' ὑπέθηκεν, ὅτῃ πέλεν ἀγριὰς ὕλη.

Ad hoc etiam referendum est *Schol. AESCH. Prom.* 384 Weckl. : —

ποταμούς δὲ πυρὸς τοὺς κατὰ Σικελίαν ρύακάς φησι, περὶ ὧν ἠκούομεν
πάλαι· καὶ κατὰ τοὺς Ἰέρωνος χρόνους κατὰ τὸ μέσον βνέτες πολλὰ
διέφθειραν χωρία. ὅθεν τό τε θεῖον καὶ τὰ πυρεῖα.

Quantum autem fomitum genus commemoravit FESTVS (PAVL. *Excerpt.* p. 84, M.) his uerbis : —

Fomites sunt assulae ex arboribus dum caeduntur excussae.

Cf. SERV. ad VERG. *A.* I, 176 : —

Sane fomites sunt assulae quae ab arboribus cadunt quando inciduntur, quod foueant ignem.

Assulas uero Graeci πελεκήματα uocabant ; cf. LABB. *Gloss.* s.u. fomes ; GAL. 14, 423 ; AET. 8, 3.

Quintum tandem fomitum genus commemoratur apud FESTVM (l.l.) his uerbis : —

At Opilius adustas iam uites uocari existimat fomites.

Cf. THEOPHR. *Ig.* 63 : —

διὸ καὶ τῷ (πυρὶ) ἐκπηδῶντι εὐθὺς πεπυρωμένον¹ προσάγουσιν.

Ad hoc spectant uerba CLODI scribae apud SERVIVM (l.l.) : —

Fomites sunt astulae ambustae.

Videmus igitur scintillas primas in lignis iam flammam expertis nonnunquam esse exceptas.

De significatione uu. ἱσκα et ἱσακα, quae supra commemorauimus (p. 39), multum dubitamus. Nam primum apud PAVL. AEGINETAM (6, 49) haec uerba reperimus : —

εἰσὶ δὲ σπογγώδη τινὰ σώματα αἱ ἱσκαὶ ἐν ταῖς δρυσὶ καὶ ταῖς καρύαις γινόμεναι.

Fungos igitur, qui sunt uitia quaedam in arborum cortice gigni solita (cf. PLIN. *N. H.* 17, 223), hoc loco ἱσκαὶ significare uidentur ; his quidem in quercu atque iuglande, ut hodie, praecipue repertis milites sicut fomitibus utebantur (cf. CONST. PORPHYR. supra, p. 39), quamquam de hoc usu nihil in Lexico Graeco dicitur. Eiusdem uocabuli est forma ἱσακα quam apud LEONEM PHILOSOPHVΜ (supra, p. 39) esse diximus ; in codicibus enim haec est forma, sed in editionibus forma ἱσκα scribitur siue tertia quaedam forma de qua nunc disseremus. Nam apud SVIDAM s.u. ἱσκα haec legimus : —

ἱσκα · ὀψάριον. καὶ ξύλον ἐν ᾧ ἄπτεται πῦρ.

Non enim recte diceret significationes diuersas his formis inesse

¹ Rectius fortasse PLANCKIVS (p. 10, adn. 1) de hoc uocabulo ita scribit : πεπυρωμένον ist mit Feuer zubereiteter, künstlicher Schwefel. Man unterschied nämlich θεῖον ἄπυρον und πεπυρωμένον ; cf. DIOSC. 5, 124.

(cf. SOPH. *Lex. Byz. Grk.* s.u. ἴσκα) nisi apud ΑΕΤΙΥΜ (7, 91) ita scriptum esset : —

τῇ ἐντερώνῃ τῶν καρύνων ξύλων · ὁ καλοῦσιν ὕσкас.

Aetius igitur u. ὕσκα iuglandis medullam significare putauit, quamquam fortasse ἴσкас neque ὕσкас scribebat. Haud enim multum de eius uerbis certe intellegere possumus, cum liber formis semel modo, nisi fallimur, descriptus (apud ALDOS, a. 1534) multas mendas sine dubio exhibeat. Pauli autem librum erudite recensuit Gallus quidam doctissimus (BRIAV. 1855), codicibus undeiginti diligenter conlatis, ex quibus unus modo formam ὕσкас praebet.¹ Fieri potest igitur ut u. ἴσκα, siue rectius ὕσκα scribenda sit, non solum fungum sed etiam medullam significet, sed de hoc nihil firmiter adseuerare uolumus.

De fomitum generibus iam satis dictum est ; his autem, cum ardescebant, parua inciebantur ligna quae Graeci ξύλα κάγκανα uel ἐκκαύματα siue ὑπεκκαύματα, Romani cremia appellabant. HOMERVS quidem u. κάγκανα utebatur in *Od.* 18, 308, *Il.* 21, 364 ; cf. script. carminis *ad Mercurium*, 113 ; THEOCR. 24, 87 ; APOLL. RHOD. 1, 1182. Apud poetas autem solos u. κάγκανα reperitur ; scriptores alii u. ἐκκαυμα uel ὑπέκκαυμα eodem sensu usurpabant ; cf. XEN. *Symp.* 4, 25 ; ARIST. *Respir.* 6 ; SOPH. *fr.* 206 (Nauck.) ; THEOPHR. *Ig.* 29, 73 ; DIOD. SIC. 2, 49, 3 ; PLVT. 2, p. 651 B. Cremia autem Romani ea ligna appellabant ; cf. COL. 12, 19, 3 : —

leni primum igni et tenuibus admodum lignis, quae cremia rustici appellant, fornacem incendemus.

Recte uero u. cremia in ore rusticorum uersari dixit Columella, neque mirum est quod apud scriptores ceteros non exstat. Domibus enim, cum ignis in fomitibus ardesceret, carbones iis inciebantur (u. supra, p. 39) ; itaque cremiis non opus fuit. Haec autem commemorantur in *Vulg. Ps.* 102, 3, his uerbis : —

Quia defecerunt sicut fumus dies mei ; et ossa mea sicut cremium aruerunt.

Licet hoc loco ea commemorare quae Romani sulphurata ramenta uocabant ; haec quidem non sicut ramenta nostra in quiduis fricata ignem ultro incendere poterant. Vtilia tamen erant, quoniam igni ex

¹ Cf. formas ἴσχλος et ὕσχλος (uide *Lex. Graec.*).

foco uel quauis flamma alia¹ recepto sulphur, quo ad extremum erant tincta, facile incendebatur; unde ramenta lignea, cum ignem conceperant, iisdem modis quibus nostra usurpari poterant. Fomitum quoque uice sine dubio nonnunquam fungebantur, praesertim cum ex lapidibus uel ex solis radiis ignis eliceretur. Mercis institores ea per uias uenditare uel uitris fractis permutare solebant; cf. MART. 1, 41 (42), 4; 10, 3, 1-5; 12, 57, 14; IUVENAL. 5, 48, cum SCHOL.; 13, 145; STAT. *Silu.* 1, 6, 73; BECKERI *Gallum*, 1, p. 84 (ed. Goell.).

Nunc uero pauca dicere licet de ea planta quam Graeci *νάρθηκα*, Romani narthecam siue ferulam uocabant; haec enim apud omnis qui de ignis origine scribunt frequentissime commemoratur. Nam in ea planta Prometheus, ut erat fabula, ignem e caelo subreptum seruabat ut hominibus huius usum daret; cf. HES. *Theog.* 565:—

παῖς Ἰαπετοῦ
κλέψας ἀκαμάτῳ πυρὸς τηλέσκοπον αὐγὴν
ἐν κοίλῃ νάρθηκι. . . .

Cf. id. *Op.* 50 sqq.; AESCH. *Prom.* 109; PLIN. *N. H.* 7, 198. Naturam autem huius plantae satis dilucide exposuit PLINIVS altero loco (*N. H.* 13, 122 sqq.):—

Et ferulam inter externas (plantas) dixisse conueniat arborumque generi adscripsisse, quoniam quarundam naturae, sicuti distinguemus, lignum omne corticis loco habent forinsecus, ligni autem loco fungosam intus medullam ut sabuci, quaedam uero inanitatem ut harundines. Ferula calidis nascitur locis atque trans maria, geniculatis nodata scapis. Duo eius genera: nartheca Graeci uocant adsurgentem in altitudinem, nartheciam uero semper humilem. . . . (126) ignem ferulis optime seruari certum est easque in Aegypto praecellere.

Quippe ferula, quae a Plinio externa appellatur, hodie circa Phalericum portum nascitur (cf. CLARK. *Pelop.* p. 111); item in Aegypto (cf. PLIN. l.l.). De eius autem usu cf. HESYCH. s.u. *ναρθηκοπλήρωτον*:—

τῷ νάρθηκι ἐχρῶντο πρὸς τὰς ἐκζωπυρήσεις τοῦ πυρός.

¹ Ex solis radiis nonnunquam incendebantur. Cf. SEN. *Q. N.* 1, 1, 8: nam apud nos quoque ramenta sulphure aspersa ignem ex interuallo trahunt.

Inter fomitum genera PLANCKIUS (p. 19, adn. 2), haec commemorat; qua re autem stramenta non ramenta scripserit, nescimus.

Haudquaquam uero putandum est Hesychium his uerbis dixisse ferulam pro fomite usurpari solere; hodie tamen hunc usum apud Graecos ea praebet (cf. CLARK. l.l.). Sed male ferulae usum apud antiquos nonnulli ita explicant; uocabulo enim ἐκζωπυρήσεις falluntur. Hoc enim non ad fomitem usum spectat, sed, si recte uocabuli ζώπυρα supra (p. 16) significationem exposuimus, uu. ζωπύρησις atque ἐκζωπύρησις proprie dicentur cum ignis carbonibus uel lignis ardentibus sub cineribus seruatis succenditur. Horum uice igitur non fomitem antiqui ferula utebantur; ignis enim in hac ita diu seruari potuit ut alio ex loco in alium transferretur (cf. locos HESIODI, AESCH., PLIN. supra citatos, p. 43). Nostra etiam aetate ferula hunc usum praebet; cf. TOVRNEFORT. *Voyage du Levant*, I, p. 290.

NVNC DEMVM ad quartum ignis faciendi modum uenimus, quo ex solis radiis, cum specula uel pila uitrea siue crystallina iis opponantur, is elici soleat. Res ipsa docet multum post ceteros hunc modum esse inuentum, quippe cum instrumenta sua priscis temporibus omnino defuerint. Plana enim specula fortasse Homeri tempore in usu erant, quamquam nihil de his scripsit poeta ille (u. infra, p. 51); sed concava adhibenda sunt quibus ignis ex solis radiis eliciatur. Neque crystallae antiqui, nisi fallimur, multum ante diuum Augustum habebant. Vitrea autem utensilia iam Aristophanis tempore Athenis erant; cf. AR. *Ach.* 73 sqq.:—

ξενιζόμενοι δὲ πρὸς βίαν ἐπίνομεν
ἐξ ὑαλίνων ἐκπωμάτων καὶ χρυσίδων
ἄκρατον οἶνον ἡδύν.

Veri simile igitur esse uidetur pilorum uitreorum usu ignem ex solis radiis primum esse elicatum, neque praeter expectationem res cecidit. Aristophanes enim, qui scriptorum quos nouimus primus hunc ignis faciendi modum commemorat, uitri perspicue meminit (cf. *Nub.* 764 sqq., infra, p. 45). Magis autem conueniet, antequam hunc locum tractauerimus, quaerere qua ratione ignis ex solis radiis elici possit; quippe duplice, una si repercutiuntur, sicut e speculo (ἀνάκλασις), altera si refringuntur, sicut per uitrum translucidum (κατάκλασις).¹ Cf. ARIST. *Probl.* II, 51:—

¹ In hac re multum labitur PLANCKIUS (p. 21 sq.), qui uu. Brennglas et Brennspeigel significationes perpetuo confundat.

διὰ τί, εἴπερ ἡ φωνὴ ἀήρ τις ἐσχηματισμένος ἐστί, φερομένη διαλύεται
πολλάκις τὸ σχῆμα, ἢ δ' ἡχώ, ἢ γίγνεται πληγέντος τοῦ τοιούτου πρὸς τι
στερεόν, οὐ διαλύεται, ἀλλὰ σαφῶς ἀκούομεν; ἢ διότι ἀνάκλασις ἐστίν, οὐ
κατάκλασις;

Vocabulum *κατάκλασις* hac potestate positum apud ARISTOTELEM
solum reperitur (cf. *Proth.* 11, 23); uerbo autem quod est *κατακλάω*
eodem sensu PLUTARCHVS utebatur (2, p. 897 D) :—

περὶ ἄλλω· μεταξύ τῆς σελήνης καὶ τῆς ὀψεως ἀήρ παχὺς καὶ ὀμχλώδης
ἴσταται. εἴτ' ἐν τούτῳ τῆς ὀψεως κατακλωμένης καὶ εὐρνομένης. . . .

Contra u. ἀνάκλασις (est Latine *repercussus*; cf. PLIN. *N. H.* 5,
35; PLIN. *Ep.* 2, 17, 17) multo frequentius apud scriptores reperi-
mus; cf. ARIST. *de Sens.* 2, 6 :—

αὐτὸς αὐτὸν ὄρῃ ὁ ὀφθαλμός, ὥσπερ καὶ ἐν τῇ ἀνακλάσει.

THEOPHR. *Sens.* 36 :—

καὶ γὰρ ἐν ὕδατι καὶ χαλκῷ καὶ ἑτέροις πολλοῖς ἐστὶν ἀνάκλασις.

Cf. ARIST. *Meteor.* 1, 7, 8; 3, 2, 7; THEOPHR. *Ig.* 73; EVCLID.
τὰ κατοπτρικά, passim; STRAB. 16, p. 779; DIOD. SIC. 17, 82; CLEOM.
2, p. 86; PLUT. *Plac. Phil.* 2, 20; STOB. *Ecl.* 1, 26. In his quidem
notandum est non ante Aristotelem hoc u. ἀνάκλασις esse repertum,
nisi apud Plutarchum et Stobaeum uerba ipsa Philolai philosophi
habeamus. Neque uero ante Theophrastum (*Ig.* 73, infra, p. 51)
quisquam scriptorum quos nouimus ignem ex solis radiis *repercussu*
elici posse dixit.

Vocabulum autem *κατάκλασις* Aristoteles primus usurpare uidetur;
Latinum nomen nullum reperire potuimus quo Graecum proprie uer-
tamus. Multo tamen ante Aristotelem hunc ignis eliciendi modum
esse notum docet locus ARISTOPHANIS (*Nub.* 764 sq.) :—

ΣΤΡ. εὐρηκ' ἀφάνισιν τῆς δίκης σοφωτάτην
ὥστ' αὐτὸν ὁμολογεῖν σ' ἐμοί.

ΣΟΚ. ποῖαν τινά;

ΣΤΡ. ἥδη παρὰ τοῖσι φαρμακοπώλαις τὴν λίθον
ταύτην ἐόρακας, τὴν καλὴν, τὴν διαφανή,
ἀφ' ἧς τὸ πῦρ ἀπτουσι;

ΣΟΚ. τὴν ὕαλον λέγεις;

ΣΤΡ. ἔγωγε. φέρε, τί δὴτ' ἄν, εἰ ταύτην λαβών,
ὁπότε γράφοιτο τὴν δίκην ὁ γραμματεὺς,
ἀπωτέρω στὰς ὧδε πρὸς τὸν ἥλιον
τὰ γράμματ' ἐκτίξαιμι τῆς ἐμῆς δίκης ;

Hoc quidem loco de repercussu non agitur, cum hic fieri non possit si uitro translucido (διαφανεῖ) utamur, sed refringi solis radii dicuntur. Sed ex Aristophanis uerbis plane uidemus id temporis rarissimum esse uitrum ; quippe gemmam (τὴν λίθον) id appellat. HERODOTO autem lapis fusus id esse uidebatur ; cf. 2, 69 : —

ἀρτήματά τε λίθινα χυτὰ καὶ χρύσεια ἐς τὰ ὅτα ἐνθέντες.

Cf. PLAT. *Tim.* 61 B : —

τό τε περὶ τὴν ὕαλον, γένος ἅπαν ὅσα τε λίθων χυτὰ εἶδη καλεῖται.

Cf. EPINIC. *Mnes.* 1, 8 (Meinek.) : —

συγκυρκαήσας ἐν σκύφῃ χυτῆς λίθου.

Praeterea in Aristophanis loco quem supra (*Ach.* 73, p. 44) citaui-
mus uasorum uitreorum usus ad summam luxuriam pertinet. In fabula
etiam Nubium, cum apud pharmacopolas gemma exhiberi dicatur, eo
ipso comprobatur rem inter miracula habitam esse ; erant enim
pharmacopolae praestrigiatores meri nec tamen medici (cf. BECKERI
Charicles, ed. Goell. 3, p. 59). Haudquaquam igitur recte putandum
est Aristophanis aetate ignem hoc modo elici solere ; omnibus uero
temporibus apud antiquos rarissimus erat hic usus, quem doctissimi
soli intellexerent. Nunquam enim, ut apud nos fieri solebat, homines
antiqui uitrea in eam figuram quae lentecula uocatur conformata
secum circumferebant, quibus ignem ex solis radiis elicerent. Neque
nescii sumus huius formae uitrea Pompeis, Nolae, Mogontiaci e terra
esse effossa (cf. MARQVARDT. *Privatl. der R.* p. 751, adn. 9 ; 752,
adn. 1) ; sed haec omnia recte putat SACKEN. (*Mittheil. aus Oester-
reich*, III, (1879) p. 151) oculis auxilio esse facta, quibus res quasi
auctae atque examplificatae esse uideantur. Aliter uero sententiam
iam dederat LESSINGIUS (*Briefe Antiq. Inhalts*, 45) ; cum autem
scriptores nihil tradiderint quod huic suffragetur, Sackeni sententiae
nos fauimus. Cf. SEN. *Q. N.* 1, 6, 5 : —

Dixi modo fieri specula quae multiplicent omne corpus quod imi-
tantur. Illud adiciam omnia per aquam uidentibus longe esse maiora.
Litterae quamuis minutae et obscurae per uitream pilam aqua plenam
maiores clarioresque cernuntur.

In loco Aristophanis dictum est apud pharmacopolas uitrum esse quoddam quo solis radii ita refringi possent ut ignis fieret. Hoc uero ex Aegyptiis, qui plurima ante saecula uitri usus peritissimi erant (cf. WILKINSON. 2, p. 140, ed. 1878), fortasse ex urbe Naucrattide in Graeciam referri potuit, in pilae figuram conformatum. Haud enim ueri simile est id temporis esse cognitum figuram quae lentecula uocatur igni eliciendo optimam esse, cum eam rem ne Plinius quidem intellexerit. Pilae enim figuram hic quoque laudat (*N. H.* 37, 28, infra, p. 49). Sed, ut supra dictum est, haec omnia Aristophanis tempore inter miracula habebantur, neque ante Plinium quicquam scriptores ceteri siue Graeci siue Romani de hoc uitri usu tradiderunt. Scholiasta autem de Nubium fabulae uersibus haec scripsit:—

τὴν ὕalon λέγεις. κατασκευάσμα ἐστὶν ὕalon τροχοειδές, εἰς τοῦτο τεχνασθέν, ὅπερ ἐλαίῳ χρίοντες καὶ ἡλίῳ θερμαίνοντες προσάγουσι θρυαλίδα καὶ ἄπτουσιν. ἄλλως· ὕalon ἡμεῖς μὲν ἀρτίως τὸ ἐκ βοτάνης τινὸς κεκαυμένον καὶ διὰ πυρὸς τηκόμενον εἰς κατασκευὴν ἀγγείων τινῶν λέγομεν· οἱ παλαιοὶ δὲ τὴν διαφανῆ λίθον, τὸν ἰδιωτικῶς λεγόμενον κρίον, εἰκότα δὲ ὕαλφ. Ὅμηρος δὲ οὐκ εἶδε τὸ ὄνομα, ἀλλὰ παρ' αὐτῷ καὶ τοῖς ἀρχαίοις ἡλεκτρος μὲν ἐστὶν, ὕαλος δὲ οὐ.

Cf. SVID. s.u. ὕαλη et PHILEMON. *Lex.* 248, p. 171, qui similia tradiderunt.

Haec uero quasi ineptiae pleraque sunt habenda; nam primum apud Homerum u. ἡλεκτρος—uel si rectius ἡλεκτρον scribere oporteat—electrum non uitrum significat (cf. BUCHHOLZ. *Hom. Real.* 1, 2, p. 346; PLIN. *N. H.* 33, 81; 37, 31 sqq.). Deinde falsa sunt uerba quae secuntur: οἱ παλαιοὶ δὲ (ὕalon ἔλεγον) τὸν ἰδιωτικῶς λεγόμενον κρίον. Crystallum enim, quod u. κρίον sine dubio significatur, priscis temporibus omnino erat ignotum (u. infra, p. 48). In aliis Scholias-tae uerbis, quae Philemon quoque in Lexico nobis tradidit, aliquid certe ueri inest; haec tamen ad Aristophanis locum non pertinent. In hoc enim de olei usu nihil dictum est, neque necesse est ut aliquid tale esse propositum putemus. Sed non est dubium quin multo ante Philemonem intellectum sit per olei pellucidi guttulam aduerso oppositam soli radios ita refringi posse ut ignis in fomitibus incendatur; quippe aquae guttula usus idem conficias. Verum tamen quamquam in uerbis supra citatis ueri species inest, in hoc tamen fallitur scriptor quod putat per uitrum oleo inunctum ignem elici posse. Non est enim in oleo ipso ignea uis quasi innata atque insita, qua solis radii

refringantur, sed olei uel etiam cuiusuis liquidi pellucidi gutta per figuram ipsam rotundam ad eandem rem quam pila uitrea ualebit. Quod si oleo inunctum erit uitrum, nihil tale fieri poterit; oleum enim uitro infusum solis radiis obstabit. Satis autem de Scholiastae sententia dictum est quae nullo modo ad Aristophanis facetias pertinet. Nunc uero ceteros locos inspiciamus, quibus solis radii ita refringi dicuntur ut ignis eliciatur.

Duos modo reperire potuimus; in utrisque non de uitro tantum modo, sed de eo addita aqua agitur.

PLIN. *N. H.* 36, 199: cum addita aqua uitreae pilae sole aduerso in tantum candescant ut uestes exurant.

LACT. *de Ira Dei*, 10: orbem uitreum plenum aquae si tenueris in sole, de lumine quod ab aqua refulget ignis accenditur etiam in durissimo frigore.

Haec uero neque obscura neque ad perspicendum sunt difficilia. Est autem locus apud THEOPHRASTVM (*Ig.* 73, infra, p. 51), quo primo aspectu de uitro agi uidetur. Sed nostra quidem sententia uerba ἀπό τε τῆς ὑέλου ab homine indocto atque rerum ueterum imperito interpolata sunt. Theophrastus enim de repercussu (ἀνάκλασις Graece uocatur), neque de eo quod Graece κατάκλασις appellatur nunc disserit. Quod si repercussu ignem elicere, uitro usi, uelimus, hoc in speculi forma sit adhibendum. Sed uitrea specula antiqui omnino ignorabant (u. infra, p. 50). Itaque cum hoc loco de repercussu agatur uu. ἀπό τε τῆς ὑέλου sine dubio inepte inculcata eiecimus.¹

CRYSTALLORUM usum nunc inspiciamus, cum de uitro omnia explicata sunt. Hic quoque de eo agitur quod Graeci κατάκλασιν appellabant. Sed difficile esset dictu quo tempore antiqui crystallam primum uiderent. Vocabulum quidem κρύσταλλος HOMERVS scribit (*Od.* 14, 477), sed eo glaciem non lapidem designat; cf. etiam HDT. 4, 28; THVC. 3, 23; PLAT. *Symp.* p. 220 B; ARIST. ap. ANTIGONVM, *Hist. Mir.* 144; PLVT. 2, p. 953 E; LVCIAN. *de Hist. conscr.* 19. Eodem sensu u. crystallum auctor *Priapeorum* (63, 6) scribebat.

¹ WIMMERVS (*Theophr. Opera*, Parisii, Didot.) u. ἀνάκλασις in *refractionem*, nouum atque inauditum uocabulum, transtulit.

Hoc uere dicere licet Romanorum HELVIVM CINNAM poetam, Graecorum STRABONEM lapidis nomen crystalli nobis primos tradidisse; cf. schol. IVVENAL. 6, 155:—

sic et Cinna dicit:—

atque imitata niues ludens legitur crystallus.¹

STRAB. p. 717, Cas., —

φέρει δὲ καὶ λιθίαν ἢ χώρα (India) πολυτελῇ κρυστάλλων καὶ ἀνθρώπων παντοίων.

Neque putamus multo ante hoc tempus lapidem qui crystallum uocatur antiquis esse notum; quippe etenim Plini aetate etiam tunc credebant id glaciem esse per annos duratam, unde quoque nomen dabant; cf. PLIN. *N. H.* 37, 23:—

non aliubi certe reperitur quam ubi maxime hibernae niues rigent, glaciemque esse certum est, unde nomen Graeci dedere. Oriens et haec mittit quoniam Indicae nulla praefertur. Nascitur et in Asia, uilissima circa Alabanda . . . item in Cypro.

Nulla autem modo Plinius ita scripsisset nisi ipsius aetate res noua atque rarissima esse uideretur; certe enim uidisset ipsum in sententia secum pugnare; cf. SOLINVM, 15, 31:—

Putant glaciem coire et in crystallum corporari, sed frustra: nam si ita foret nec Alabanda Asiae nec Cypros insula hanc materiam procrearent, quibus admodum calor iugis est.

Verum tamen haud multo post Plinium intellectum est lapidem uerum esse crystallum; cf. AEL. *N. A.* 15, 8; DIONYS. *Perieges.* 780. Huius autem usum igni eliciendo commemorat PLINIVS his uerbis (*N. H.* 37, 28):—

Inuenio apud medicos quae sint urenda corporum non aliter utilius uri putari quam crystallina pila aduersis opposita solis radiis.

Cf. ISID. *Or.* 16, 13, 1:—

Hic (crystallus) oppositus radiis solis adeo rapit flammam ut aridis fungis uel foliis ignem praebeat.

Per crystallum igitur solis radii ita refringuntur ut in fomitibus ei suppositis ignis incendatur. Denique in carmine quodam ORPHEO

¹ Haec forma quae us syllaba terminatur apud Solinum quoque reperitur (15, 29).

olim adscripto haec reperimus quae de crystallo dicuntur (*Lapid.* p. 380) : —

εἰ γὰρ ἄτερ κρατεροῖο θέλεις πυρὸς ἐκ φλόγας ὄρσαι,
κέκλωμαι αὐαλέων μιν ὑπὲρ δαίδων καταθεῖναι ·
ἀντάρ ὅγ' ἡελίοιο καταντίον αὐγάζοντος
αὐτίχ' ὑπὲρ δαίδων ὀλίγην ἀκτῖνα τανύσσει.
ἦ δ' ὅτε καρφαλέης τε θίγγῃ καὶ πίονος ὕλης,
καπνόν, ἔπειτα δὲ πῦρ ὀλίγον, μετὰ δὲ φλόγα πολλήν
ὄρσει · τὴν δ' ἄρα φασὶ παλαιγενέες ἱερὸν πῦρ.

Nunc autem inter omnis uiros doctos conuenit haec multo post Christum natum esse scripta ; cf. BERNHARD. *Grundriss der G. L.* 2, 1, pp. 359 sqq. ; NICOL. *G. L.* 3, pp. 332 sq. Praeterea, si recte supra contendimus, hoc quoque licet nobis addere, Orpheum illum qui in poetarum carminibus celebratur, nihil de lapide crystallo scire potuisse.

Iaspidis autem usum igni eliciendo eiusdem carminis quisquis erat auctor his uerbis commemorauit (p. 389), —

ἦϋτε περ κρύσταλλος, ἄνευ πυρὸς ἐκ φλόγα πέμπεις.

Restat denique ut de percussu, qui in speculis fieri solet, nunc quaeramus. Fuit olim quaestio magna utrum uitrea specula antiqui iam inuenissent necne. Bene atque diserte eam tractauit uir doctus BECKMANNVS (*Hist. Inventions*, ed. Bohn. 2, pp. 68 sqq.), ut non dubitemus quin diui Augusti aetate nihil de iis sit intellectum. Ea uero PLINIUS commemorare primus uidetur his uerbis (*N. H.* 36, 193) : — aliud (uitri genus) argenti modo caelatur, Sidone quondam his officinis nobili, siquidem etiam specula excogitauerat.

Sed non est dubium quin, si re uera Sidonii uitrea specula excogitauerint, de quo Plinius ipse dubitare uidetur, non tamen haec in usum apud Romanos uenerint ; cum enim de speculis argenteis atque aereis copiose is disserat, de uitro omnino silet (cf. *N. H.* 33, 128 sqq. ; 34, 160). Itaque Beckmanno uidebatur Sidonios uitro in speculis uti conatos, quoniam haec cum metallicis speculis comparari nullo modo posse uiderent, a spe inceptoque repulsos destitisse ; uitrum autem quo in speculis uterentur coloris deterioris atque lapidi obsiano similis fore putauit. Et recte, cum inter omnia specula quae Pompeis sunt effossa, unum modo coloris liuidi atque caliginosi e

uitro factum est (cf. *Bull. d. Instit.*, 1883, p. 79; *PLIN. N. H.* 36, 196).

Sine dubio igitur neque Romani neque Graeci antiqui uitrea specula uulgo habebant (cf. MARQVARDT. *Privatl.* pp. 690, 758). Tum demum apud Alexandrum Aphrodisiensem qui saeculo post Christum natum tertio fuit ea certe commemorantur his uerbis (*Probl.* 1, 132) :—

διὰ τί τὰ ὑέλινα κάτοπτρα λάμπουσιν ἄγαν; ὅτι ἐνδοθεν αὐτῶν χρίουσι κασσιτέρῳ.

Per multis uero uiris doctis uisum est problemata illa ab Alexandro Tralliano saeculo sexto esse scripta (BECKMANN. *ll.*; MARQVARDT. p. 758). Itaque uidetur uitri usus nihil ad nostram quaestionem pertinere posse. Specula autem metallica temporibus perantiquis in usu erant, quamquam de his nihil Homerus scripsit. Scriptorum Graecorum quos nouimus PINDARVS primus ea commemorauit (*Nem.* 7, 14) :—

ἔργους δὲ καλοῖς ἔσοπτρον ἴσαμεν ἐνὶ σὺν τρόπῳ.

Cf. frag. AESCH. ap. STOB. *Serm.* 18, 13 :—

κάτοπτρον εἶδους χαλκός ἐστ', οἶνος δὲ νοῦ.

Plana uero erant haec specula, sed ex concauis speculis solis radii repercussu ignem incendere solent. Neque nescii sumus etiam ex planis, si multa simul radios reperiunt, ignem incendi posse (u. infra, p. 52), sed nunc de unius modo speculi usu disserimus. Concaua autem EVCLIDES commemorat his uerbis (τῶν κατοπτρικῶν *prop.* 31) :—

ἐκ τῶν κοίλων ἐνόπτρων πρὸς τὸν ἥλιον τιθέντων πῦρ ἐξάπτεται.

PLVT. *de facie quae in luna esse uidetur*, 23 :—

καὶ γὰρ ἄλλως τὰ μὲν κοῖλα τῶν ἐσόπτρων εὐτονωτέραν ποιεῖ τῆς προηγούμενης αὐγῆς τὴν ἀνακλωμένην, ὥστε καὶ φλόγας ἀναπέμπειν πολλάκις.

PLIN. *N. H.* 2, 239 :—

Cum specula quoque concaua aduersa solis radiis facilius etiam accendant quam ullus alius ignis.

APVL. *Mag.* 16 (2, p. 481, Hild.) :—

cur caua specula si exaduersum soli retineantur appositum fomitem accendant?

Ad haec quoque spectant uerba THEOPHRASTI quae secuntur (*Ig.* 73) :—

ὅτι δ' ἀπὸ μὲν τοῦ ἡλίου φῶς ἄπτουσι τῇ ἀνακλάσει ἀπὸ τῶν λείων — συμμιγνύουσι δὲ τὸ ὑπέκκαυμα — ἀπὸ δὲ τοῦ πυρὸς οὐχ ἄπτουσιν, αἴτιον ἧ

τε λεπτομέρεια καὶ ὅτι συνεχὲς γίγνεται μᾶλλον ἀνακλῶμενον, τὸ δ' ἀδυνατεῖ διὰ τὴν ἀνομοιότητα. ὥστε τὸ μὲν τῷ ἄθροισμῷ καὶ τῇ λεπτότητι διαδυνάμενον εἰς τὸ ἔκκαυμα δύναται καίειν, τὸ δ' οὐδέτερον ἔχον οὐ δύναται. ἐξάπτεται δὲ [ἀπὸ τε τῆς ὑέλου]¹ καὶ ἀπὸ τοῦ χαλκοῦ καὶ τοῦ ἀργύρου τρόπον τινὰ ἐργασθέντων. . . .

Specula concaua uerbis τρόπον τινὰ ἐργασθέντων significantur. Eodem sensu apud CLEOMEDEM (2, p. 86) u. ἐπιτεχνῶμενοι interpreta-mur : —

ἀπὸ μὲν γὰρ τοῦ παρ' ἡμῖν πυρὸς οὐκ ἔνεστι κατ' ἀνάκλασιν πῦρ λαβεῖν, ἀπὸ δὲ τῶν ἡλιακῶν ἀκτίνων ἐπιτεχνῶμενοι λαμβάνομεν πῦρ κατ' ἀνάκλασιν.

Ad eandem rem spectare uidentur haec uerba auctoris libri qui *Allegoriae Homericæ* inscribitur (cap. 26) : —

κατὰ γὰρ ἀρχὰς οὐδέπω τῆς τοῦ πυρὸς χρήσεως ἐπιπολαζούσης, ἄνθρωποι χρονικῶς χαλκοῖς τισιν ὀργάνοις κατασκευασμένοις ἐφειλκύσαντο τοὺς ἀπὸ τῶν μετεώρων φερομένους σπινθήρας, κατὰ τὰς μεσημβρίας ἐναντία τῷ ἡλίῳ τιθέντες. ὅθεν καὶ ὁ Προμηθεὺς ἀπ' οὐρανοῦ διακλέψαι τὸ πῦρ λέγεται.

Hic uero quisquis erat auctor² saeculo post Christum natum primo sine dubio fuit. In uerbis quidem supra citatis multa reperiri possunt quae perspicue id comprobant; hoc autem satis dicere habemus scriptores qui ante Theophrastum libros nobis tradiderint omnis de igne ex solis radiis elicitio silere, neque illum, si de prima ignis origine quicquam dixisset, fabulam de Promethei ferula narratam omissum fuisse.

Hactenus de unius speculi usu disseruimus; quod si hic, ut supra diximus, adeo rarus fuit ut haudquaquam uulgo intellectus sit, minime uero apud antiquos etiam doctissimos uniuerse cognitum est multis speculis planis eodem tempore adhibitis ligna procul ab his posita incendi posse. Archimedes tamen mathematicus inlustrissimus id fecisse dicitur, qui, ut aiunt, nauis Romanas, cum iam Marcellus oppidum Syracusas obsideret, hoc modo inflammauit; cf. ANTHEMI *frag.* 2 (*Script. R. Mir.* p. 156, West.) : —

καὶ γὰρ οἱ μεμνημένοι περὶ τῶν ὑπὸ Ἀρχιμήδους τοῦ θειοτάτου κατασκευασθέντων ἐσόπτρων οὐ δι' ἐνὸς ἐμνημόνευσαν πυρίου, ἀλλὰ διὰ πλειόνων.

¹ Verba uncis inclusa eiecimus; u. supra, p. 48.

² V. NICOL. 2, p. 368; BERNHARD. 2, I, p. 163; ZELLER. *Eclecticism in Greek Philosophy*, p. 195.

Fuerunt autem multi qui haec omnia quasi prae dicta negauerint, cum putant nullo modo id fieri potuisse. Sed errore falluntur; res enim, quamquam ita est difficilis ut uix credere adducamur Archimedes eam fecisse, sine dubio tamen effici potest. Nam proximo saeculo Buffonius ille, speculis planis amplius trecentis ita collocatis ut omnis solis radios unum in locum, qui a speculis pedes etiam ducentos distabat, eodem tempore reprecuterent, ligna in eo loco, qui focus appellari solet, posita facile inflammabat (u. BUFFON. *Œuvres*, 5, pp. 301 sqq.). Nostri etiam saeculi initio prosperius euenerunt experimenta quae Peyrardius, apud Gallos mathematicus clarissimus, instituit (cf. *Œuvres d'Archimède*, par PEYRARD, pp. 539 sqq.). De his uero, cum ad artem *κατοπτρικήν* proprie pertineant, nihil amplius dicemus; quod si quis ea penitus intellegere uelit, ad scriptores duos supra commemoratos sese conferat (et u. IOHANNEM PET. VAN CAPELLE in *Annalen der Physik*, 1816, pp. 242 sqq.; OETINGERI *de speculo Archimedis Diss.*, Tubingae, 1725).

Sed mirum certe fuisset, si Marcellus, imperator callidus, in foco illo nauis suas usque adeo commorari sisset dum omnes comburentur; fabulam tamen eam ante Christum natum iam percerebuisse credimus. Quamquam enim nihil de ea Polybius, Liuius, Plutarchus tradiderunt, non dubium tamen nobis esse uidetur quin Diodorus Siculus in operis sui parte iam pridem perdita eam commemorauerit. Nam in libro quinto (cap. 37), cum forte Archimedis ingenium laudaret, haec addidit: *περὶ ὧν κατὰ μέρος ὅταν ἐπὶ τὴν Ἀρχιμήδους ἡλικίαν ἔλθωμεν ἀκριβῶς διέξιμεν*. Libri autem uicesimi sexti in quo constat res Syracusanas esse tractatas fragmenta modo pauca nobis restant. In hoc libro tamen, si Tzetzae uerbis creditur, perspicue ille descripsit quo modo Archimedis arte naues comburerentur. Tzetzes enim cum de eo multa scripsisset (u. infra, p. 54) expresse dixit id Diodori testimonio esse traditum, neque ullam causam uidemus quare ei non credi oporteat, praesertim cum sine dubio Diodori totum opus in manu habere potuerit. Aliorum quoque scriptorum testimonia citauit quinque, Dionis — quem etiam Zonaras auctorem commemorauit (u. infra, p. 55), — Anthemi, Heronis, Philonis, Pappi. Dionis uero operis pars prima omnino periit, ceterorum, Anthemio excepto, fragmenta perpauca habemus. ANTHEMIVS autem, qui saeculo sexto fuit, eius facti gloriam Archimedi adscribendam esse putauit, ut supra iam diximus (p. 52); cf. frag. 2, Westermann. p. 153: —

ἐπειδὴ δὲ τὴν Ἀρχιμήδους δόξαν οὐχ οἷόν τε ἐστι καθελεῖν, ἅπασιν ὁμολόγως ἱστορηθέντος ὡς τὰς ναῦς τῶν πολεμίων διὰ τῶν ἡλιακῶν ἔκαισεν ἀκτίνων.

In eodem fere loco speculi quod ipse inuenerat Anthemius multis uerbis usum explicat.

Videmus igitur eo tempore plerumque esse creditum Archimedem hoc modo ignem incendisse ; multo uero ante Anthemium a Luciano et Galeno eiusdem rei mentio facta erat ; cf. Lvc. *Hirr.* 2 : —

τοιούτον ἀκούομεν τὸν Ἀρχιμήδην γενέσθαι τὰς τῶν πολεμίων τριήρεις καταφλέξαντα τῇ τέχνῃ.

GALEN. I, p. 657, Kuehn. : —

καὶ τὸν Ἀρχιμήδην φασὶ διὰ τῶν πυρίων ἐμπρῆσαι τὰς τῶν πολεμίων τριήρεις.

Itaque saeculo post Christum natum altero haec fama iam percruerant ; tum demum saeculo duodecimo de Archimedis speculis Eustathius breuiter, Tzetzes et Zonaras copiose atque quasi ueterum auctoritate freti disserebant. Licet autem eorum uerba subicere, ne quid in hac re omittamus.

EVST. *ad Il.* 5, 5 : —

κατοπτρικήν τινα μεμηχανῆσθαι . . . καθ' ἣν δὴ ταύτην μέθοδον Ἀρχιμήδης μὲν ὁ σοφώτατος πολεμικὰς ἐνεπύρισε νῆας, ὡς οἶά τις κεραυνοβόλος.

TZET. *Chil.* 2, 118 sqq. : —

ὡς Μάρκελλος δ' ἀπέστησε βολὴν ἐκείνας τόξου,
ἐξάγωνόν τι κάτοπτρον ἐτέκνηεν ὁ γέρων.
ἀπὸ δὲ διαστήματος συμμέτρου τοῦ κατόπτρου
μικρὰ τοιαῦτα κάτοπτρα θεῖς τετραπλᾷ γωνίαις
κινούμενα λεπίσι τε καὶ τισι γιγλυμίαις,
μέσον ἐκείνῳ τέθεικεν ἀκτίνων τῶν ἡλίου,
μεσημβρινῆς καὶ θερινῆς καὶ χειμερινῆς.
ἀνακλωμένων δὲ λοιπὸν εἰς τοῦτο τῶν ἀκτίνων
ἐξαφίς ἤρθη φοβερὰ πυρώδης ταῖς ὀλκάσι,
καὶ ταύτας ἀπετέφρωσεν ἐκ μήκους τοξοβόλου.
οὕτω νικᾷ τὸν Μάρκελλον ταῖς μηχαναῖς ὁ γέρων.

149 ὁ Δίων καὶ Διόδωρος γράφει τὴν ἱστορίαν
καὶ σὺν αὐτοῖς δὲ μέμνηται πολλοὶ τοῦ Ἀρχιμήδους·
Ἀνθέμιος δὲ πρῶτιστον ὁ παραδοξογράφος

Ἦρων καὶ Φίλων, Πάππος τε καὶ πᾶς μηχανογράφος,
ἐξ ὧν περ ἀνεγνώκειμεν κατοπτρικὰς ἐξάψεις —.

ZON. *Epit. Hist.* 14, 3 : —

κάτοπτρα γὰρ ᾄδεται χαλκεῦσαι πυρφόρα ὁ Πρόκλος, καὶ ταῦτα ἐκ τοῦ τείχους τῶν πολεμίων νεῶν ἀπαιωρῆσαι κατέναντι, τούτοις δὲ τῶν τοῦ ἡλίου ἀκτίνων προσβαλουσῶν πῦρ ἐκείθεν ἐκκεραυνοῦσθαι καταφλέγον τὸν νηίτην τῶν ἐναντίων στρατὸν καὶ τὰς νῆας αὐτάς, ὃ πάλαι τὸν Ἀρχιμήδην ἐπινοῆσαι ὁ Δίων ἱστορήσε, τῶν Ῥωμαίων τότε πολιορκούντων Συράκουςαν.

Restat denique ut quid nos sentiamus breuiter explicemus ; quamquam enim non dubitamus quin apud Diodorum et Dionem eius rei mentio facta sit, horum tamen uerbis credere non possumus. Nam eam rem narrant, quae, cum locis temporibusque aequissimis fieri possit, in illo tamen homine, omnibus in utroque parte diligenter circumspectis, incredibilis esse nobis uideatur. Non tamen, ut putamus, scriptores haec omnino ficta nobis tradiderunt. Nam sine dubio eorum tempore exstabat Archimedis liber quem de speculorum cauorum usu atque aliis rebus ad artem κατοπτρικὴν pertinentibus scripserat ; cf. APVL. *Apol.* cap. 16 : —

Cur caua specula, si aduersum soli retineantur, appositum fomitem accendunt ? . . . alia praeterea eiusdem modi plurima quae tractat uolumine ingenti Archimedes Syracusanus, uir in omni quidem geometria multum ante alios admirabilis subtilitate, sed haud sciam an propter hoc uel maxime memorandus quod inspexerat speculum saepe ac diligenter.

Cf. etiam THEO. *ad Ptolem.* p. 10 (Archimedis omnia opera ed. Heiberg., 2, p. 466), qui Archimedis librum περὶ κατοπτρικῶν inscriptionem commemorat ; cf. TZET. *Chil.* 12, 973.

Nostra igitur sententia Archimedes in illo libro speculorum usum eliciendis ignibus tractauit ; fortasse dixit machinam quandam ab ipso esse inuentam qua lignum procul a speculis positum percussu incendi posset, nonnullis additis quibus Diodori Dionisque mentes ita fallebantur ut crediderint eum re uera contra hostium nauis speculis usum esse. Fortasse etiam ante illos eadem causa iam fabula percrebruerat. Sane Buffonius putabat speculum suum in bello usui fore (cf. *Œuvres*, 5, p. 377), sed nunquam haec res accidit. Scriptores

autem ceteri, Polybius, Liuius, Plutarchus aut illum librum forte non uiderant, aut si uiderant uerba recte interpretabantur.

Postremo quaestionem perdifficilem instituemus, quo modo apud Romanos incendi sit solitus ille ignis Vestae sempiternus. De eo enim scriptorum testimonia primo aspectu inter se dissidere uidentur, neque quisquam rem satis diligenter inuestigauit. Omnibus quidem notum est prodigii loco haberi, quod hostiis maioribus procurari debeat, si ignis Vestae casu sit exstinctus (cf. LIV. 28, 11, 7; DION. HAL. 2, 67); sed pauci fortasse erunt qui intellegant eum Kalendis Martiis quotannis nouum incendi esse solitum. Id tamen comprobant Ouidius et Macrobius his uerbis:—

OVID. *F.* 3, 135–136, 141–144:—

Neu dubites, primae fuerint quin ante Kalendae
Martis, ad haec animum signa referre potes. . . .
Vesta quoque ut folio niteat uelata recenti
cedit ab Iliacis laurea cana focis.
adde quod arcana fieri nouus ignis in aede
dicitur, et uires flamma refecta caput.

MACR. *S.* 1, 12, 6:—

Huius etiam prima die ignem nouum Vestae aris accendebant, ut incipiente anno cura denuo seruandi nouati ignis inciperet.

Domibus autem priuatis ignem nouum eo die de aris Vestalibus incendi esse solitum auctor est SOLINVS (1, 35):—

Romani initio annum decem mensibus computauerunt a Martio auspicantes, adeo ut eius die prima de aris Vestalibus ignes accenderent.

Quotannis igitur Vestae ignem accendebant. Scriptores autem non nobis tradiderunt utrum ex ignis ueteris igniculis seminibusque nouus incendi soleret, an hunc more maiorum terebrando elicerent.¹ Quod si humana neglegentia uel dis aliquid portendentibus

¹ Nobis quidem recte putare uidetur IORDANVS (*Der Tempel der Vesta; Berlin*, 1886, p. 61 et p. 80) anno incipiente uirgines Vestalis in atrio suo ignem nouum incendisse quem eodem die in templum ferrent. Non autem dicit quo

is erat extinctus, haud dubie putes futurum fuisse ut hoc modo accenderetur. Romani enim in sacris publicis priuatis omnia quae ex patribus acceperant religiosissime seruabant, ut in his res nouas uix reperire posses. Recte igitur testimonio quod est apud Festum (u. supra, p. 21) recepto rem in nullam quaestionem uocaremus, nisi multis uiris doctis uideretur Plutarchus (u. infra, p. 58) dicere ex solis radiis percussu ignem sempiternum incendi solitum esse. Primo quidem haec inter se repugnare non uidentur; putauerunt enim uiri doctissimi Ruhnkenius, Klausenius, Preunerus multis cum aliis (cf. PREVNERVM, *Hestia-Vesta*, p. 284, et adn. 1 et 3)¹ Festum de ueterum more, Plutarchum de eo qui ipsius tempore exstaret, perspicue disserere. His quidem nos ipsi olim adsensi credebamur haud multo ante Plutarchum rem nouam esse institutam quae ab duarum causarum altera originem ducere posset; nam si ex more Graecorum esset facta, saeculo ante Christum natum primo incepisse, quod si ad solis cultum dei spectaret, haud multo ante Traianum imperatorem eam factam putabamus. Quamquam enim diui Augusti et Neronis capita corona radiis distincta in nummis ornata uidentur (cf. COHEN. *Monnaies de l'Empire*, 1, tab. 4, 278, 481; tab. 11, 149, 214), solis tamen dei cultus Traiani demum tempore penitus inueterauit. Est autem apud Iulianum imperatorem (u. infra, p. 61) locus, qui Plutarchi uerba confirmare uidetur.

His quidem causis atque uirorum doctorum auctoritate nobis olim persuasum erat uirgines Vestalis — quo tempore dubium est — antiquo more terebrandi repudiato, ex solis radiis percussu ignem sempiternum elicere coepisse, neque multum cura nos sollicitabat quod de testimonio apud Plutarchum tradito IORDANVS (*Der Tempel der Vesta*, p. 80) et MARQVARDT. (*Römische Staatsw. IV, Das Sacralwesen*, p. 342) omnino silebant. Sed recte silebant, ut nunc putamus, quod nulla fides uerbis apud Plutarchum repertis ab his habebatur,

modo nouum ignem incenderint; fortasse ignis in atrio primum extinctus ex eo nouus incendebatur qui in templo flagrabat, deinde ignis templi extinctus ab eo renouato accendi solebat. Hoc enim modo ignem optima fide reseruent sempiternum. Haud recte tamen IORDANVS contendit (p. 80) supplicii causa esse constitutum ut terebrando uirgines ignem casu extinctum elicerent; fuit enim ritus praeae religionis non poena.

¹ Cf. PLANCK. pp. 22 sq.

errore uero et nos et illi decepti eramus. Nunc locum PLVTARCHI inspiciamus qui in *Numae uitae* continetur capite nono : —

Νομῶ γὰρ δὴ καὶ τὴν τῶν Ἑστιάδων παρθένων καθιέρωσιν καὶ ὅλως τὴν περὶ τὸ πῦρ τὸ ἀθάνατον, ὃ φυλάττουσιν αὐται, θεραπείαν τε καὶ τιμὴν ἀποδιδόασιν, εἴτε ὡς καθαρὰν καὶ ἀφθαρτον τὴν τοῦ πυρὸς οὐσίαν ἀκηράτοις καὶ ἀμιάνοις παρατιθεμένου σώμασιν, εἴτε τὸ ἄκαρπον καὶ ἄγονον τῇ παρθενίᾳ συνοικειοῦντος. Ἐπεὶ τοι τῆς Ἑλλάδος ὅπου πῦρ ἀσβεστόν ἐστιν, ὡς Πυθοὶ καὶ Ἀθήνησιν, οὐ παρθένοι, γυναῖκες δὲ πεπαυμένα γάμων ἔχουσι τὴν ἐπιμέλειαν· [ἐὰν δὲ ὑπὸ τύχης τινὸς ἐκλίπῃ, καθάπερ Ἀθήνησι μὲν ἐπὶ τῆς Ἀριστίωνος λέγεται τυραννίδος ἀποσβεσθῆναι τὸν ἱερὸν λύχον, ἐν Δελφοῖς δὲ τοῦ ναοῦ καταπρησθέντος ὑπὸ Μήδων, περὶ δὲ τὰ Μιθριδατικά καὶ τὸν ἐμφύλιον Ῥωμαίων πόλεμον ἅμα τῷ βωμῷ τὸ πῦρ ἠφανίσθη, οὐ φασι δεῖν ἀπὸ ἐτέρου πυρὸς ἐνάνεσθαι, καινὸν δὲ ποιεῖν καὶ νέον ἀνάπτοντας ἀπὸ τοῦ ἡλίου φλόγα καθαρὰν καὶ ἀμιάντον. Ἐξάπτουσι δὲ μάλιστα τοῖς σκαφέοις, ἃ κατασκευάζεται μὲν ἀπὸ πλευρᾶς ἰσοσκελοῦς ὀρθογωνίου τριγώνου κοιλαινόμενα, συννεύει δ' εἰς ἓν ἐκ τῆς περιφερείας κέντρον. Ὅταν οὖν θέσιν ἐναντίαν λάβῃ πρὸς τὸν ἥλιον, ὥστε τὰς αὐγὰς πανταχόθεν ἀνακοπτομένας ἀθροίζεσθαι καὶ συμπλέκεσθαι περὶ τὸ κέντρον, αὐτὸν τε διακρίνει τὸν ἀέρα λεπτυνόμενον καὶ τὰ κουφώτατα καὶ ξηρότατα τῶν προστιθεμένων ὀξέως ἀνάπτει κατὰ τὴν ἀντέρευσιν, σῶμα καὶ πληγὴν πυρώδῃ τῆς αὐγῆς λαβούσης.] Ἔνιοι μὲν οὖν οὐδὲν ὑπὸ τῶν ἱερῶν παρθένων ἄλλ' ἢ τὸ ἀσβεστον ἐκείνο φρουρεῖσθαι πῦρ νομίζουσιν· ἔνιοι δὲ εἶναι τινα φασιν ἀθάνατα τοῖς ἄλλοις ἱερὰ κρυπτόμενα, περὶ ὧν ὅσα καὶ πυθέσθαι καὶ φράσαι θεμτὸν ἐν τῷ Καμίλλου βίῳ γέγραπται.

Nobis quidem haec uerba cogitantibus nihil fuit subsidii in aliorum scriptis quo plurimas quaestiones soluamus. Nam primum unus homo¹ Plutarchi librum de Numae uita inscriptum adnotationibus inlustrauit, deinde Iordanus et Marquardt., cum huic loco nullum auctoritatem adscribant, causas tamen non dicunt quibus adducti taceant. Nos igitur quid sentiamus paulo longius oportet dicere.

Primis in uerbis de quibus nunc agitur nihil uidemus quod in suspicionem ueniat; Ciceroni quoque opinio fuit Numam Pompilium uirginum Vestalium religionem statuuisse (*de Re Pub.* 2, 26); praeterea altero loco PLVTARCHI ipsius (*Camill.* 20) haec confirmantur.

¹ ERDMANNVS, cuius libellum (*Plut. Numae aliquot capita commentariis inlustr.*, Wittenberg. 1874) uidere non potuimus.

Deinde sententiae quae sequitur fides habenda est; lucernae enim sacrae quae Athenis fuit custodem fuisse feminam PLVTARCHVS altero loco dixit (*Sull.* 13), cui adsentitur PREVNERVS (*Hestia-Vesta*, pp. 191, 264, 270, 287); illam Graeci *ἱεροφάντιδα* appellabant (cf. PLVT. *l.c.*; C. I. G. 432, 435). Hactenus igitur merito ac iure uerbis credas quae apud Plutarchum hoc loco reperiuntur, sed ea quae secuntur fraude ac dolo certe non carent. Negatur enim si quando ignis ille sempiternus exstinctus sit, ut locis qui commemorantur interdum accidisse dicitur, alio ex igni fas esse hunc incendi, sed nouum ex sole ipso, scaphiis siue uasculis adhibitis, esse parandum. Vix quidem adducitur Preunerus ut his quasi ueris dictis credat; credit tamen, aliorum sententiis adsensus quos in adnotatione sua laudat (u. supra, p. 57). Praeterea hi putant uu. *περὶ δὲ τὰ Μιθριδατικά . . . ἡφανίσθη* ad uirginum Vestalium cultum esse referenda,¹ quibus ei adsentiuntur qui Plutarchi librum in linguas Anglicam, Germanam, Gallicam, Italianam transtulerunt; hi enim omnes praeter unum² in textum u. Romae inculcauerunt, quod Graeco abest.

Sed ualde miramur quod nulla diligentia adhibita rem tam neglenter dimiserant; quod si aliter fecissent, multa fortasse his in uerbis repperissent quibus maxime diffusi essent. Nam primum etiam si uerba quae iam modo commemorauimus ad res Romanos pertinerent, falsa a essent habenda; nihil enim apud scriptores alios de Vestae igni his temporibus exstincto reperitur traditum; hoc uero, si accidisset, certe commemoratum esset, cum inter maxima prodigia haberi sole-ret. Deinde falso dicatur uirginum Vestalium aram periisse, cum notum sit ab anno ante Christum natum centesimo quadragesimo octauo ad Neronis imperatoris tempus Vestae templum et atrium integra esse seruata (cf. IORDAN. *Topographie der Stadt Rom*, 1, 2, pp. 421, 426; *Der Tempel der Vesta*, pp. 7, 25; PREVNER. *H.-V.* p. 250).

Sed prorsus negamus quicquam hoc loco esse scriptum quod ad Vestae cultum pertineat, cum huic ipsa conlocatio conformatioque uerborum obstet. Haec enim si recte intelleges, uu. *Ἀθήνησι μὲν* opposita esse uidebis uerbis *ἐν Δελφοῖς δέ*, quae illis quasi respondere uidentur; uerba autem *περὶ δὲ τὰ . . . ἡφανίσθη* uerbis *Δελφοῖς δέ* acriter instant, neque ab his ullo modo diuelli possunt, si certa emen-

¹ Cf. PLANCK. p. 23.

² A. H. CLOUGH.

date loquendi regula dicuntur. Hoc loco igitur de rebus Graecis non Romanis scribitur; uerba tamen, eis quae ad res Atheniensium spectant omissis, omnia tantae perfidiae sunt, ut haec nullo modo putare possimus a Plutarcho ipso esse scripta. Imperite enim absurdeque sunt pleraque ficta ab homine qui haec ex aliis Plutarchi locis demendo, mutando, interpolando huc transtulit. Nam multis locis apud scriptores antiquos huic similibus sollicitabantur homines ad fraudem callidi, qui, doctrina defecti abundantes audacia, nodos difficilis iunxerunt quos soluere nos oporteret. Astute tamen ab Aristione incipit, neque in hac re quicquam mentitur. Sacram enim Minervae lucernam tempore Aristionis olei penuria esse extinctam PLUTARCHVS ipse altero loco nos docet (*Sull.* 13. Cf. HERTZBERG. *Geschichte Griechenlands unter der Herrschaft der Römer*, I, p. 367). Sed omnia quae de igni Delphico secuntur ueritate plane carent. Haudquaquam enim templum a Medis incensum est. Nam etiam si Herodoti auctoritatem (8, 37; 38) reiceremus—id quod nullo modo facere uellemus—parui tamen ad rem hoc ualeret, cum incredibile esset si de tanta calamitate scriptores omnes tacerent. Fuit enim Delphis focus communis totius Graeciae (cf. PLVT. *Arist.* 20; PREVNER. *H.-V.* 128 sqq.), quo ignis sacerrimus semper ardebat; ab hoc uero ad Iouis Eleutherii aram post Plataicum proelium statutam Euchidas Plataeensis ignem attulit, iam cum ignes in patria sua a barbaris contaminati essent (cf. PLVT. *ib.*). Praeterea Pausanias expresse dixit Delphis templum quod aetate sua exstaret ab Amphictyonibus saeculo ante Christum natum sexto esse aedificatum (cf. PAVS. 10, 5, *fin.*). Is igitur quisquis erat scriptor qui Plutarchi librum corrupit in his falsa tradidit.

Deinde uerbis quae secuntur fides omnino deest. Nihil enim apud scriptores alios de ara Delphica euersa atque igne extincto reperire potuimus, neque, ut putamus, si ea accidissent, testimonia deficerent. Nobis quidem uidetur scriptor qui haec interpolabat, a Sullae facto quodam—utrum dolo an inscitia nescimus—omnia deduxisse. Sulla enim bello Mithridatico, quo tempore cum Mario instabat bellum ciuile (*περὶ δὲ τὰ Μιθριδατικά καὶ τὸν ἐμφύλιον Ῥωμαίων πόλεμον*), cum pecunia sibi opus esset multa, Amphictyones coegit ut dei dona, quae in templo essent, omnia ad se mitterent. Id uero PLUTARCHVS ipse dicit (*Sull.* 12; cf. DIOD. SIC. frag. lib. 38, 7, t. 5, p. 169, Dind.; et PAVS. 9, 7, 4). Ex his igitur scriptor ignotus illa finxit quae apud

Plutarchum nunc leguntur. Videmus autem de rebus Graecis non Romanis eum disserere, Plutarchi uerbis seductum quae de uiduis lucernae sacrae custodibus scripta erant.

Praeterea uerba quae secuntur quibus dicitur ignem extinctum ex solis radiis esse eliciendum ab eadem manu putamus esse interpolata. Haec enim etiam si a Plutarcho ipso scripta essent nullo modo ad Vestae ignem spectarent, cum uerbis *ἐπεί τοι τῆς Ἑλλάδος . . . τὴν ἐπιμέλειαν* artissime essent adstringenda. Deinde si hoc loco de uirginibus Vestalibus loqueretur, exempla ignis extincti ex historia Romana (cf. PLUT. *Cam.* 31) non Graeca hausisset; aliter tamen uidemus esse factum, ut non dubitemus haec omnia (*Ἐάν δὲ ὑπὸ τύχης . . . τῆς αὐγῆς λαβούσης*), quae ad res Graecos pertinent, e glossamate mero in Plutarchi textum esse recepta; cursum enim dicendi refrenant et calorem cogitationis mora exstinguunt. Negamus igitur hoc loco quicquam de Vestae igni nobis esse traditum; uerbis autem quae apud Festum reperta supra commemorauimus maximam fidem habemus.

Neque his obstant nostra quidem sententia uerba IULIANI (*Orat. ad Solem regem*, p. 155 A) quae secuntur: —

ἔτι σοι βούλει περὶ τῶν αὐτῶν φράσω τεκμήριον τοῦ Νόμα τοῦ βασιλέως ἔργον; ἄσβεστον ἐξ ἡλίου φυλάττουσι φλόγα παρθένοι παρ' ἡμῖν ἱεραὶ κατὰ τὰς διαφόρους ὥρας, αἱ (sc. ἡσυχασταὶ) δὴ τὸ γινόμενον [ὑπὸ τῆς σελήνης] περὶ τὴν γῆν ὑπὸ τοῦ θεοῦ πῦρ φυλάττουσιν.

Iulianus enim imperator, qui ipse Solem atque Mithram deos religiosissime coluit, in hanc orationem omnia diligenter conlegit quae Solem deum honore augerent; uerum in eo ipso nonnulla subest suspicio ne superstitiosus ille et paene fanaticus eis quae non sunt credenda argumenti studio incensus crediderit atque falsa pro ueris nobis tradiderit. Hoc uero praetermittimus quod dicit a Numa rege esse institutum ut Vestae ignem ex solis radiis elicatur, id quod nullo modo Numae tempore fieri potuit, cum, si recte supra contendimus, nihil de hoc modo ignis eliciendi id temporis intellexeretur. Nam si re uera Iuliani aetate ignis Vestae hoc modo Romae incendebatur, sine dubio credebant homines temporibus antiquissimis id moris esse institutum. In hoc tamen maxime deceptus esse uidetur, quod dicit quattuor (*κατὰ τὰς διαφόρους ὥρας*) esse uirgines quae tempore suo (*παρ' ἡμῖν*) ignem sempiternam custodiant. Notum uero

est a Numa ipso uirgines esse captas quattuor numero (DION. HAL. 2, 67; PLVT. *Num.* 10); postmodo tamen, utrum a Seruio Tullio an Tarquinio Prisco incertum est, duabus additis sex erant usque ab eo ad PLVTARCHVM (*Num.* 10; cf. DION. HAL. 3, 67; FEST. p. 344), neque aliquam esse causam uidemus cur istum numerum ad Iuliani tempus retentum esse non putemus.¹

Haud multum igitur de modo ignis Vestae eliciendi ualeat eius auctoritas qui uirginum Vestalium etiam numerum non recte tradiderit; non sane Festi testimonium Iuliani uerbis adducti reicimus. Verum tamen fieri potest ut nihil de Roma urbe sed de Byzantio his uerbis res agatur. Quamquam enim de hoc scriptores nihil nobis tradiderunt, non tamen dubitamus quin Iuliani quidem tempore Vestae ignis Byzanti fuerit; fortasse Iulianus ipse eum ab imperatoribus Christianis neglectum primum ibi incendit, quattuor uirginibus quae custodirent captis ut numerum antiquissimum renouaret. Fortasse quoque ille, qui Romam nunquam erat profectus, nouum morem ignis ex solis dei radiis eliciendi instituit. Haud tamen negamus fieri posse ut Graecorum more, de quo mox infra scripturi sumus, uirgines Vestalis Romae saeculo ante Christum natum primo (u. supra, p. 57) ignem elicere doctas esse,² quamquam de hac re scriptores omnino tacent.

QVAMQVAM uero minime credimus uerba apud Plutarchum scripta ad Vestae ignem pertinere posse, restat tamen ut rationem ignis eliciendi ibi commemoratam exploremus atque exponamus. Scriptor enim quisquis erat dicit uas quoddam excauatum ad flammam ex solis radiis excipiendam aduerso soli esse oppositum, quo facto radii in uas ad locum qui focus appellatur ita reperiuntur ut fomites ibi positos statim inflamment.

Sed mirum est quod omnes fere qui hunc locum explicare uel in

¹ Haud sane nescimus saeculo post Christum natum quarto, quo saeculo Iulianus fuit, uirgines Vestalis, una addita, septem fuisse numero (cf. *Vetus orbis descriptio*, ed. Gothofred., p. 4, et AMBROS. *Ep.* 18, locos a PREVNERO (p. 270) laudatos, qui tamen de hoc loco Iuliani silet). Videtur tamen post Iulianum hoc esse factum (cf. PREVNER., p. 270, adn. 6); quod si illius tempore iam erant septem, nihil de hoc Iulianum intellexisse uerba κατὰ τὰς διαφύρους ἄρας comprobant; tempora enim anni in eadem oratione (p. 148 D) quattuor, neque ut GALENVS (5, 347), septem computat.

² Ad hoc fortasse spectat u. erat apud FESTVM.

linguas suas uertere sunt conati, de horum uasorum forma inter se differunt, neque quicquam ex iis certum intellegi potest, ut uasa his similia efficiantur.

Primum enim IVSTRVS LIPSRVS in libro *de Vesta et Virginibus Vestalibus Syntagma* inscripto sententiam suam tabula quoque addita exposuit. Nam uas quoddam in coni figuram conformatum construxit, id quod re uera ex aequicurio triangulo retriangulo effici potest (cf. EVCLID. *EL.* 11, def. 18). Deinde quoniam in integro cono ignem percussu fieri non posse putabat,¹ eius apicem absceidit, cum putaret solis radios in focum extra conum positum percuti posse. Sed deceptus est uir doctus; id uero accidet si conus ex triangulo retriangulo nec tamen aequicurio erit factus; tum enim radios bis percuti oportebit, id quod in Lipsi cono fieri non potest. Plutarchus autem triangulum fuisse aequicurium diserte dicit. Sententiam tamen Lipsi multi uiri docti errore decepti secuntur. Ceterorum autem sententias peruersas uel obscuras hoc loco commemorare operae non pretium est; eorum etiam qui ante septem annos Plutarchi libros in sermonem Anglicum uertebant (STEWART. et LONG. 1, p. 109) uerba non intellegimus.

RESTAT denique ut exponamus quid nos de hac re sentiamus; uerba autem Plutarchi iterum subicimus ut plane uideas quae interpretari conemur: —

ἐξάπτουσι δὲ μάλιστα τοῖς σκαφεῖσι, ἃ κατασκευάζεται μὲν ἀπὸ πλευρᾶς ἰσοσκελοῦς ὀρθογωνίου τριγώνου κοιλαινόμενα, συννεύει δ' εἰς ἓν ἐκ τῆς περιφερείας κέντρον.

Primum dicimus hoc loco praepositionem ἀπὸ eodem modo quo fere ἐκ usurpari; cf. HDT. 7, 65, ἀπὸ ξύλου πεποιημένα; AESCH. *Ag.* 970; SOPH. *Tr.* 704.

Nunc utile erit VITRVVI locum conferre (9, 9, 1) quo de solariorum genere quodam disserit: —

Hemicyclium excauatum ex quadrato ad enclimaque succisum Berosus Chaldaeus dicitur inuenisse.

Huius quidem generis exemplum proximo saeculo Tusculi repertum

¹ Sed frustra; uir enim doctissimus huius conlegi Physicorum professor conum huius figurae integrum ex plumbo albo faciendum benigne curauit, quo usi ignem ex solis radiis elicere potuimus. Non tamen putamus Plutarchum his uerbis coni figuram designare uoluisse.

in tabula quarta (p. 14) depictum exhibemus (cf. RICH. *Dict. Ant.* s. u. hemicyclium). Eius autem in parte excauata talis erat inclinatio ut caeli declinationi — enclimati — quae Tusculi esse uideretur accurate conueniret. Haec quidem solaria a MARTIANO CAPELLA (6, 597) scaphia uocantur. Scaphia (σκαφεῖα) etiam Plutarchus illa uasa in igni eliciendo adhibita appellat; haec autem dicit ex aequicruri trianguli retrianguli latere fuisse excauata.

Verum tamen Vitruuius, cum quadratum dicit, solidum tamen quoddam, ut in tabula nostra uidere licet, perspicue intellegit; huius autem superficiem animo solam sibi fingebat. Eodem modo Plutarchus, dum superficiem commemorat, de solido quodam nostra sententia disserebat. Id uero erat prisma, cuius superficies atque basis aequicruriis triangulis retriangulis sunt comprehensae (cf. tab. V, p. 14). Scaphium igitur ex latere quod AB linea in tabula designatur ita excauatum est ut eius inclinatio ad caeli declinationem quae Romae esset accurate conueniret; curuatura etiam scaphii — συννεύει . . . κέντρον — sine dubio ea fuit quam nunc parabolam appellare solemus, optimam igni eliciendo. Ex triangulo autem excuari scaphium ritus morisque sollemnis fuit cum triangula inter res arcanas haberentur; ex his quidem elementa rerum illa quattuor principio excreuisse PLATO docuit (*Tim.* p. 53 C. sqq.). A Graecis igitur, ut supra dictum est, Romani hunc ignis sempiterni eliciendi modum accepisse potuerunt. De metallo autem ex quo scaphia excauentur scriptores nihil nobis tradiderunt.

Haec habuimus quae de ignis eliciendi modis dicenda putaremus.

ON THE ORIGIN OF THE CONSTRUCTION OF οὐ μή WITH THE SUBJUNCTIVE AND THE FUTURE INDICATIVE.

BY W. W. GOODWIN.

THE origin of the construction of οὐ μή has never been satisfactorily explained. While there is a general agreement as to the meaning of the two forms of expression in which this double negative occurs, that (1) οὐ μὴ γένηται or οὐ μὴ γενήσεται is *it will not happen*, and (2) οὐ μὴ καταβήσκει is *do not come down*, there is great diversity of opinion as to the manner in which these meanings are obtained from the Greek expressions, and still greater as to the origin of the constructions themselves. Most scholars have explained expressions of *denial* with οὐ μὴ and those of *prohibition* on entirely different theories, which involve different views of the functions of the negatives in the two forms. The explanation of the expressions of denial (like οὐ μὴ γένηται) which has gained most favor is that of an ellipsis after οὐ of a verb or other form denoting fear on which μὴ γένηται depends; so that the full form would be οὐ δέος ἐστὶ μὴ γένηται, *there is no fear that it will happen*. Since a strong argument for this ellipsis is the existence of such examples as οὐ φόβος μὴ σε ἀγάγω, XEN. *Mem.* ii. 1, 25, and οὐχὶ δέος μὴ σε φιλήσῃ, AR. *Eccl.* 650, which, by omitting φόβος and δέος, would become οὐ μὴ σε ἀγάγω and οὐχὶ μὴ σε φιλήσῃ, it can hardly be said that this is supposed to be one of the unconscious ellipses which are no longer felt in actual use. This explanation, however, does not help to account for the prohibitions in the second person, like οὐ μὴ καταβήσκει, for there is no freak of language by which οὐ δέος ἐστὶ μὴ καταβήσκει or even οὐ δέος ἐστὶ μὴ καταβήσκει (if we can suppose such an expression) could be transformed into οὐ μὴ καταβήσκει, in the sense *do not come down*. The prohibitions have, therefore, generally been explained, on Elmsley's theory, as interrogative; and οὐ μὴ καταβήσκει; is supposed to mean *will you not not come down?* i.e. *do not come down*. All subjunctives that are found in these prohibitions, as

in οὐ μὴ σκώψῃς μηδὲ ποιήσῃς, ARIST. *Nub.* 296, have generally been condemned since Brunck and Elmsley, and such subjunctives are seldom seen in recent editions of the dramatists.

But all attempts to explain these constructions of οὐ μὴ on different theories lead to fatal difficulties. We cannot make all the prohibitions interrogative, nor can we change all the prohibitory subjunctives to futures without violence to the text; nor are all cases of the second person of the subjunctive or of the future with οὐ μὴ prohibitory. The following examples show a complete transition from one of the uses of οὐ μὴ to the other, and yet no line of distinction, on which different theories of construction can reasonably be based, can be drawn between any two of them:—

Οὗτοι σ' Ἀχαιῶν, οἶδα, μὴ τις ὑβρίσῃ, *no one of the Achaeans, I am sure, will insult you.* SOPH. *Aj.* 560. οὐ σοι μὴ μεθέψομαί ποτε, *I never will follow you.* Id. *El.* 1052. κούχῃ μὴ παύσῃσθε, *and you will not cease.* ARIST. *Lys.* 704. ἀλλ' οὐ ποτ' ἐξ ἐμοῦ γε μὴ πάθῃς τόδε, *but you shall never suffer this from me.* SOPH. *El.* 1029. οὐ μὴ ποτ' ἐς τὴν Σκύρον ἐκπλεύσῃς, *you shall never sail off to Scyros.* Id. *Phil.* 381. οὐ μὴ σκώψῃς . . . ἀλλ' εὐφῆμει, *do not jeer (i.e. you shall not jeer), but hold your tongue.* ARIST. *Nub.* 296 (this cannot be interrogative). οὐ μὴ προσοίσεις χεῖρα μῆδ' ἄψει πέπλων, *do not bring your hand near me, nor touch my garments.* EUR. *Hippol.* 606 (generally made interrogative).

It should be made a first requisite of any theory that it shall explain all these cases on the same general principle.

A preliminary question to be settled, if possible, is whether οὐ and μὴ merely combine to make a single strong negative, or whether οὐ as an independent adverb negatives μὴ and the verb taken together. The difficulty either of conceiving οὐ and μὴ as forming a single strong negative, as οὐ and οὐδέν or μὴ and μηδέν often do, or of understanding how μὴ γένηται, which by itself cannot mean *it will not happen*, can be strengthened by οὐ into an expression *with* this very meaning, has made it impossible to defend the former view on any recognized principle, even when it has been adopted for want of something better. I formerly held this opinion, but I have never attempted to defend it by any analogy of the language. The supposed analogy of μὴ οὐ forming a single negative with the infinitive will hardly hold as a support of this; for, while we cannot have a

sentence like οὐχ ὁσίον ἐστι μὴ οὐ βοηθεῖν continued by an infinitive with οὐδέ (e.g. by οὐδέ ἀμύνεσθαι), we frequently have sentences like οὐ μὴ καλεῖς με μηδέ κατερεῖς τοῦνομα, where μηδέ continues the prohibition without repeating οὐ, showing the distinct force of each part of this double negative. But this only brings out more emphatically the perplexing question that lies at the basis of the whole discussion. If οὐ is an independent negative, as by every principle of Greek negatives it should be, what does it negative? It is clear that there is only one *active* negative in οὐ μὴ γένηται, *it will not happen*; and οὐ μὴ σκώψης, *do not jeer*, surely does not have one *more* active negative than μὴ σκώψης.¹

It seems obvious, therefore, that if οὐ is an independent negative in οὐ μὴ γένηται, the negative force of the μὴ must in some way be in abeyance, as otherwise the two simple negatives would make the sentence as a whole positive. We may naturally turn for a suggestion here to the principal form of expression in which the negative force of μὴ seems to be in abeyance, — to Plato's favorite subjunctive with μὴ as a form of cautious assertion, as μὴ φαῦλον ἦ, *I think it will prove to be bad*, *Crat.* 425 B. Such expressions are, practically, cautious affirmative statements, the fear that something may prove true having by usage softened into a suspicion, and this again into an idea of probability or possibility, so that μὴ φαῦλον ἦ, which originally meant *may it not prove bad (as I fear it may)*, has come to mean *I suspect it may prove bad*, and finally, *I think it will prove bad* or *it will probably prove bad*. The expression, however, always retains at least the implication that the fact thus stated is an object of apprehension to *some one*, though it has lost all of its original reference to such apprehension on the part of the speaker.² If now a

¹ The idea suggested rather than advocated by Gildersleeve (*Am. Jour. Philol.* III. pp. 203, 205), that οὐ is an independent negative, *nay*, while μὴ introduces a question which expects a negative answer, was evidently held by the copyists of some of the best Mss. of Aristophanes or by their predecessors: thus, Rav. and several Paris Mss. have οὐ· μὴ σκώψης (or σκώψης), in *Nub.* 296; Ven. 474 has οὐ· μὴ ληρήσης in *Nub.* 367, and οὐ· μὴ λαλήσεις in 505. See the Ms. readings given in *Trans. of Amer. Philol. Assoc.* for 1869-70, p. 52.

² I give the following passages of Plato, with Jowett's translation, to illustrate this idiom: —

Ἄλλως δὲ συνέλπειν μὴ φαῦλον ἦ καὶ οὐ καθ' ὅδον, ὦ φίλε Ἑρμογενεῖς, *if they are not, the composition of them, my dear Hermogenes, will be a sorry piece of work,*

writer wished to express the negative of one of these cautious assertions, in which the original force of μή has practically disappeared, he would say, for example, οὐ μὴ φαῦλον ᾧ, *it will not prove to be bad*. We thus have a simple explanation of such sentences as οὐ μὴ οἶός τ' ᾧς, *you will not be able*, PLAT. *Rep.* 341 B, and οὐ μὴ δυνατὸς ᾧ, *I shall not be able*, Id. *Phileb.* 48 D, the former being the negative of μὴ οἶός τ' ᾧς, *I suspect you will be able*, the latter of μὴ δυνατὸς ᾧ, *I suspect that I shall be able*. So, by prefixing οὐ to μὴ ἀναγκαῖον ᾧ, we have οὐ μὴ ἀναγκαῖον ᾧ, *it will not be necessary*. (See foot-note, page 70.)

This use of μή with the independent subjunctive in Plato is, however, confined to the present subjunctive, and generally to ᾧ or ἔχῃ (with an adverb), while οὐ μὴ generally has the aorist subjunctive or the future indicative, and only rarely the present subjunctive, even in Plato. Still, the successful application of the principle to the few present subjunctives which are like those above quoted indicates that we are on the right track.

The independent subjunctive with μή is by no means confined to the Platonic construction above mentioned, although this is its chief representative in Attic Greek. It is familiar in Homer in expressions of apprehension combined with a desire to avert the object of fear; as μὴ δὴ νῆας ἔλωσι, *may they not seize the ships (as I fear they may)*, *Il.* xvi. 128. In such expressions sometimes the fear itself and sometimes the desire to avert the danger is more prominent; see *Od.* v. 415: μὴ πῶς μ' ἐκβαίνοντα βάλῃ λίθακι προτὶ πέτρῃ κύμα μέγ' ὀρπάξαν, μελέῃ δέ μοι ἔσσεται ὁρμή, i.e. *I fear that some wave may dash me upon a rock as I am emerging from the sea, and my effort will (then) be in vain* (the clause of fear being merged in a direct statement). See also *Il.* ii. 195, xviii. 8; *Od.* v. 356, xvi. 255. Between Homer and Plato we find only eight cases of independent μή (or μὴ οὐ) with the subjunctive;¹ but in these we can see the transition from Homer's

and in the wrong direction. *Crat.* 425 B. ἀλλὰ μὴ ὡς ἀληθῶς, τὸ τοῦ Ἑρμογένους, γλίσχρα ᾧ ἢ ὁλκῇ αὐτῇ τῆς ὁμοιότητος, ἀναγκαῖον δὲ ᾧ καὶ τῷ φορτικῷ τοῦτο προσκρῆσθαι, τῇ ξυνθήκῃ, *but the force of resemblance, as Hermogenes says, is a mean thing; and the mechanical aid of convention must be further employed*. Ib. 435 C. μὴ οὐδὲν ἄλλο σκεπτέον ᾧ, *the only question which remains to be considered is, etc.* *Crit.* 48 C.

¹ I depend here on Weber's statistics, given in his *Entwicklungsgeschichte der Absichtssätze*, in Schanz's *Beiträge*, Vol. II.

clause of apprehension to Plato's cautious assertion. In four of these cases the speaker expresses fear and a desire to avert its object. These are EUR. *Alc.* 315, μὴ σοὺς διαφθείρῃ γάμον, — *Orest.* 776, μὴ λάβωσί σ' ἄσμενοι, — *Herc. Fur.* 1399, ἄλλ' αἶμα μὴ σοῖς ἐξομόρξωμαι πέπλους, — *Rhes.* 115, μὴ οὐ μόλῃς πόλιν. In the other four cases we see either the cautious assertion found in Plato or a near approach to it. In HDT. v. 79, we have ἀλλὰ μάλλον μὴ οὐ τοῦτο ἢ τὸ μαντήιον, *but I suspect rather that this will prove not to be the meaning of the oracle* (precisely Plato's usage). Cases of μὴ οὐ of course illustrate this use of μὴ with the subjunctive equally with those of the simple μὴ. In EUR. *Troad.* 982, Hecuba says to Helen, μὴ οὐ πείσης σοφούς, *I suspect you will not convince wise people*, with the same sarcastic tone which is in Plato's μὴ οὐκ ἢ διδασκτὸν ἀρετῇ, *I suspect it will prove that virtue is not a thing to be taught*, *Men.* 94 E (said by Socrates, who is arguing that virtue is οὐ διδασκτόν). In ARIST. *Eccl.* 795, most editions have μὴ γὰρ οὐ λάβῃς ὅποι (sc. ταῦτα καταθῇς, where the Mss. give an impossible λάβεις), *I suspect you will not find a place to put them down*, with the same affectation of anxiety as in the two preceding examples. In XEN. *Mem.* iv. 2, 12, we have one of the rare interrogative forms of the subjunctive with μὴ, in which Euthydemus says to Socrates, μὴ οὖν οὐ δύνωμαι (v. l. δύναμαι) ἐγὼ τὰ τῆς δικαιοσύνης ἔργα διηγῆσασθαι; *do you suspect that I shall be (or am) unable to explain the works of Justice?* He adds, καὶ νῆ Δί' ἔγωγε τὰ τῆς ἀδικίας, *I assure you, I can explain those of Injustice*. Here the spirit of the expression is the same as in the other cases. Compare the similar interrogatives in Plato: *Phaed.* 64 C, *Rep.* 603 C, *Parmen.* 163 D, *Sisyph.* 387 C. But for the eight cases of independent μὴ that have been quoted, we should never know that the construction existed between Homer and Plato. We have good ground for believing that it remained as a colloquial idiom in the language, though it seldom appeared in literature until Plato revived it and restored it to common use as a half-sarcastic form of expressing mildly a disagreeable truth. In Plato the construction is not confined to this peculiar sense, for we find cases in which honest apprehension is expressed as in the older use. Weber quotes *Euthyd.* 272 C, μὴ τοῖν ξένων τις ταὐτὸ τοῦτο ὀνειδίσῃ, *I am afraid some one may insult the two strangers in this same way* (or *let no one insult them, as I fear some one may*); also *Symp.* 193 B,

καὶ μή μοι ὑπολάβῃ, *I hope he will not answer me*; and *Leg.* 861 E, μή τοῖνον τις οἶηται.

It appears, therefore, that the independent subjunctive with μή was in good use in the fifth century B.C. in the two senses illustrated by EUR. *Orest.* 776, μή λάβωσί σε, *I fear they may seize you*, and by EUR. *Troad.* 982, μή οὐ πείσης σοφούς, *I suspect you will fail to convince wise people*. From the persistence of the original meaning, even in Plato, we may probably assume that the expression more frequently included the idea of apprehension which is essential to it in Homer. But the other examples show that μή λάβωσί σε must have been in equally good use in the sense *I suspect they will seize you* (implying no apprehension). If, now, we suppose οὐ to be prefixed to μή λάβωσί σε, we shall have οὐ μή λάβωσί σε, which could be said with the meaning *I am not afraid that they will seize you*, and equally well with the meaning *they shall not seize you*. The former sense agrees precisely with that of some of the older uses of οὐ μή with the subjunctive. If the strange example from Parmenides (vs. 121) is genuine, we have οὐ μή ποτέ τις σε βροτῶν γνώμη παρελάσση, *there is no danger that any mortal will surpass you in wisdom*. In AESCH. *Sept.* 38 (one of the oldest cases, 467 B.C.), οὐ τι μή ληφθῶ δόλῳ, *I have no fear of being caught by any trick*, we can easily understand οὐ μή ληφθῶ as the negative of μή ληφθῶ, *I fear I may be caught*. So in Parmenides we have the negative of μή τις σε παρελάσση, *I fear some one may surpass you*. Οὐ μή τις ὀνειδίσῃ would be a natural negative of μή τις ὀνειδίσῃ, *I fear some one may insult*, in PLAT. *Euthyd.* 272 C. So, where there is no denial of apprehension, οὐ μή πάθῃς τόδε, *you shall not suffer this*, SOPH. *El.* 1029, may be the negative of μή πάθῃς τόδε, *I suspect you will suffer this*; and οὐ μή ἐκπλεύσῃς, Id. *Phil.* 381, may be the negative of μή ἐκπλεύσῃς, *I suspect you will sail away*. So οὐ μή ναῦς ἀφορμίσῃ (Kirchoff, -σῃς) χθονὸς, πρὶν ἂν, etc., *you shall not move your ships from the shore, until, etc.*, EUR. *Iph. Taur.* 18, will be the negative of μή ναῦς ἀφορμίσῃ, *I suspect you will move your ships*. These expressions with οὐ μή were always colloquial, as were also (at least in Attic Greek) the expressions, with μή and the subjunctive from which they are here supposed to have sprung.¹

¹ It may perhaps be urged, in opposition to the view here presented, that οὐ μή λάβωσί σε, *they will not seize you*, cannot be the negative of μή λάβωσί σε in its

If it is thought that the limited number of cases of independent μή with the subjunctive not implying apprehension do not justify the assumptions which have been based on them, it is easy to see how the change from the denial of an apprehension to the denial of a suspicion might have taken place within the οὐ μή construction itself. If we suppose such expressions as οὐ μή ληφθῶ and οὐ μή τίς σε ὑβρίσῃ to have been established as the negatives of μή ληφθῶ, *I fear I may be caught*, and μή τίς σε ὑβρίσῃ, *I fear some one may insult you*, they must soon have fallen out of this relation to the parent forms, and have been felt in use to be mere future negative assertions, so that they could not long be restricted to sentences in which apprehension was implied. Thus, οὐ μή ναῦς ἀφορμίσῃ χθονός would soon become as natural to those who used these forms as the older οὐ μή τίς σε ὑβρίσῃ. According to this view, οὐ μή with the subjunctive would come into the language in the sense of a denial of an apprehension, which is essentially the same general sense as that supposed by the theory of an ellipsis of δέος ἐστίν. But there is a great advantage in dispensing with this troublesome and improbable ellipsis, and deriving the meaning from the sentence as it stands. There is surely no more ground for assuming this ellipsis here than in the

sense of *I suspect they will seize you*, or even in that of *I fear they may seize you*, because the regular negative of this is μή οὐ λάβωσί σε, as we may call μή οὐ πείσῃ σοφούς, EUR. *Troad.* 982, the negative of μή πείσῃ σοφούς. But οὐ in μή οὐ πείσῃ negatives only the verb, whereas οὐ in οὐ μή πείσῃ would negative the whole expression μή πείσῃ. Μὴ οὐ πείσῃ is a cautious negative, meaning *I suspect you will not convince them*, corresponding in a certain way to μή πείσῃ, *I suspect you will convince them*. But οὐ μή πείσῃ would be the true negative of μή πείσῃ, denying it absolutely, in the sense *there is no ground for suspicion that you will convince them*, or (sometimes) *there is no fear that you will convince them*. There is all the difference in the world between suspecting a negation (e.g. suspecting that something will not happen) and negating a suspicion (e.g. denying that there is any suspicion that something will happen). Surely no one could understand μή οὐ δύναται ὧ, *I suspect I shall not be able*, as the negative of μή δύναται ὧ, *I suspect I shall be able*. The real negative is much rather οὐ μή δύναται ὧ, *there is no chance that I shall be able*, in PLAT. *Phileb.* 48 D. The negative power of οὐ in negating μή λάβωσί σε in its sense of *I fear they may seize you* is perhaps still more apparent. Whereas μή οὐ λάβωσί σε in this sense would mean *I am afraid they may not seize you*, οὐ μή λάβωσί σε would mean *I do not fear* (or *there is no danger*) *that they will seize you*, which is felt as a strong negative, *they will not seize you*.

independent subjunctive with *μή*, which is an older construction than the dependent subjunctive with *μή*. And if we accept *μή τις σε ὑβρίσῃ* as a complete construction, without the help of *δέος ἐστίν*, it is absurd to invent an ellipsis to explain *οὐ μή τις σε ὑβρίσῃ* as a shorter form for *οὐ δέος ἐστὶ μή τις σε ὑβρίσῃ*. In fact, dispensing with this ellipsis removes the most fatal objection to the view of the sentence on which the old theory was based.

In whichever of the two ways above suggested the subjunctive with *οὐ μή* came to express a simple future denial, it was only natural that the Attic Greek should soon begin to use the future indicative in place of the subjunctive in the same sense. Thus we have in SOPH. *El.* 1052, *οὐ σοι μή μεθέψομαι ποτε*, and in ARIST. *Ran.* 508, *οὐ μή σ' ἐγὼ περιόψομαι*, both expressing denial. At this stage the recollection of the original clause with *μή* and the subjunctive must have been lost, as there was no corresponding clause with *μή* and the future indicative in common use, of which *οὐ μή* with the future could be the negative. A most striking proof of the entire loss of this tradition is given by examples of indirect quotation of *οὐ μή* with the future. In SOPH. *Phil.* 611 we have *τά τ' ἄλλα πάντ' ἐθέσπισεν, καὶ τὰπὶ Τροίᾳς πέργαμ' ὥς οὐ μή ποτε πέρσοιεν εἰ μή τόνδε ἄγοιντο*, the direct form being *οὐ μή ποτε πέρσετε ἐὰν μή τόνδε ἄγησθε*. In XEN. *Hellen.* i. 6, 32, *εἶπεν ὅτι ἡ Σπάρτη οὐδὲν μὴ κάκιον οἰκιεῖται αὐτοῦ ἀποθανόντος*, the future indicative is retained in an otherwise similar construction. In EUR. *Phoen.* 1590, we find *εἶπε Τειρεσίας οὐ μή ποτε, σοῦ τήνδε γῆν οἰκοῦντος, εὖ πράξειν πόλιν*, representing *οὐ μή ποτε εὖ πράξει*. We could not explain *οὐ μή πράξειν* as an independent expression on any theory, either with or without an ellipsis. Such forms show the advanced stage which the construction of *οὐ μή* had reached.

We find in the Roman comic poets a few cases of *neque* with *haud* in the same clause, forming a single negative. Such are PLAUT. *Bacch.* 1037, *Neque ego haud committam ut, si quid peccatum siet, fecisse dicas de mea sententia*; and TER. *Andr.* 205, *Neque tu haud dices tibi non praedictum*. *Neque haud* may fairly be supposed to be a translation of *οὐδὲ μή* in the Greek original. If it is, it shows that the Roman poet understood *οὐ μή* with the subjunctive or the future indicative as a simple expression of denial.

When *οὐ μή* with the future indicative had been established as a

regular form of future denial, the second person singular probably began to be used as a form of prohibition. As the future could be used in positive commands in an imperative sense, as in πάντως δὲ τοῦτο δράσεις, *but by all means do this*, ARIST. *Nub.* 1352, it could also take the simple οὐ in prohibitions, as in χειρὶ οὐ ψάσεις ποτε, *you shall not touch me with your hand, or do not touch me*, EUR. *Med.* 1320. The dramatists soon introduced the new form with οὐ μή into such prohibitions, generally with the future indicative, but occasionally with the more primitive subjunctive. Thus οὐ μή καταβήσῃ had the sense of *do not come down*, derived from *you shall not come down*, as οὐ ψάσεις (above) from meaning *you shall not touch* came to mean *do not touch*. One of the strongest objections to the older views of the forms with οὐ μή is that they generally require a distinct explanation of this prohibitory construction. Elmsley's theory of a question with two negatives, explaining οὐ μή καταβήσῃ; as *will you NOT NOT come down?* hence *do not come down*, was stated in the Quarterly Review for June, 1812, and in his note to EUR. *Med.* 1120 (1151 Dind.). Many who do not adopt Elmsley's theory in full still accept the interrogative form, and these sentences are now generally printed as questions. Long before Elmsley, the famous "Canon Davesianus" had proscribed all sigmatic aorist subjunctives with οὐ μή as well as with ὅπως μή. This edict removed nearly or quite all the troublesome subjunctives that would have opposed Elmsley's view, and left only the future indicative in his doubly-negated questions, which of course required an indicative. This again set up an artificial distinction in form between the prohibitory construction allowing only the future indicative, and the other construction allowing both subjunctive and future indicative.

But it has been more and more evident in later years that this distinction in form between the two constructions cannot be maintained. It was seen by Brunck, before Elmsley's interrogative theory appeared, that it would be absurd to distinguish sentences like ταῦτα οὐ μή ποτ' ἐς τὴν Σκύρον ἐκπλεύσης ἔχων, *you shall never sail away to Scyros with these arms*, SOPH. *Phil.* 381, from οὐ μή καταβήσῃ, *you shall not come down*, ARIST. *Vesp.* 397. He therefore wrote ἐκπλεύσεις in the former, with the note "soloece vulgo legitur ἐκπλεύσης." But ἐκπλεύσεις proved to be even a greater solecism than ἐκπλεύσης

was thought to be, for the only classic future of *πλέω* is the middle *πλεύσομαι* or *πλευσοῦμαι*, and *ἐκπλεύσει* will not suit the verse. So *ἐκπλεύσης* had to be restored. Again, while almost all the sentences containing a prohibition with *οὐ μὴ*, followed by a positive command with *ἀλλά* or *δέ*, could admit Elmsley's punctuation and interpretation, — as *οὐ μὴ λαλήσεις ἀλλ' ἀκολουθήσεις ἐμοί*; ARIST. *Nub.* 505, explained as *won't you not talk nonsense and follow me?* — another passage of the *Clouds* resisted both of these and also the prescribed form. In 296 the Mss. have *οὐ μὴ σκώψης μηδὲ ποιήσης ἄπερ οἱ τρυγοδαίμονες οὗτοι· ἀλλ' εὐφήμει*. Brunck emended this without hesitation to *οὐ μὴ σκώψεις μηδὲ ποιήσεις*, with the note “soloece vulgo σκώψης . . . ποιήσης.” But there was no place for Elmsley's interrogative mark, which could not stand after the imperative, and could not be inserted after *οὗτοι* without implying that the other sentences (like *Clouds* 505 above) were wrongly punctuated. The emendation *σκώψεις* was as unfortunate as *ἐκπλεύσεις*, as the future of *σκώπτω* is *σκώψομαι*, not *σκώψω*, so that a further emendation to *σκώψει* was needed. In this battered condition, and with no interrogative mark to help the interpretation, the passage usually appears, even in the latest editions. So long as it is proposed to explain these prohibitions and the ordinary denials with *οὐ μὴ* on entirely different theories, with nothing common to the two constructions, it may not seem unreasonable to force a few examples like *Nub.* 296 and 367 into conformity with the general usage. But on any theory which makes no distinction in construction between the prohibitions and the other negative expressions of denial or refusal (for example, between *οὐ μὴ ἐκπλεύσης*, *you shall not sail away*, and *οὐ μὴ καταβήσει*, *do not come down*, i.e. *you shall not come down*), there is no more reason for objecting to *οὐ μὴ σκώψης* than to *οὐ μὴ ἐκπλεύσης*. An occasional subjunctive, like *οὐ μὴ σκώψης* or *οὐ μὴ ληρήσης*, is indeed no more than we should naturally expect in a construction which had its origin in the subjunctive. In such expressions, further, the analogy of the equivalent *μὴ σκώψης* and *μὴ ληρήσης* would tend to make the aorist subjunctive unobjectionable and perfectly natural. A reference to the list of passages quoted on page 66 will show the inconsistencies into which every one must fall who attempts to explain the prohibitions and the clauses of denial on different theories. We cannot separate *οὐ μὴ σκώψης* from *οὐ μὴ ἐκπλεύσης* in construction, nor the latter

from οὐ μή πάθῃς, nor this again from οὐ μή τις ὑβρίσῃ, on any consistent principle of interpretation.¹

One class of sentences have been claimed as decisive witnesses in favor of the interrogative theory. They are represented by οὐ θάσσον ὁΐσῃς, μὴδ' ἀπιστήσῃς ἐμοί; *will you not more quickly extend it (your hand), and not distrust me?* SOPH. Tr. 1183. These are undoubted questions, but there is no construction with οὐ μή in them. They consist of one question with οὐ, implying an affirmative answer, *will you not extend your hand?* and another with μὴ, implying a negative answer, *and you will not distrust me, will you?* The compound of the two has the general sense expressed in the first translation above.

In conclusion, we may sum up the result of the investigation as follows. The original construction of οὐ μή with the subjunctive was developed as a negative form of the independent subjunctive with μὴ, which had already become an expression of apprehension with desire to avert its object, even if it had not passed into the stage of a cautious assertion; in either case the real negative force of μὴ was in abeyance. The aorist subjunctive is the most common form here, the present being less frequent. This form of future denial next admitted the future indicative in the same sense as the subjunctive. The second person singular of this future with οὐ μή was used by the dramatists as a prohibition, without abandoning the sense which the future can always have in both positive and negative commands. In these prohibitions the future indicative, in which they had their origin, is generally used; but the subjunctive occasionally occurs, being analogous to the ordinary aorist subjunctive with μὴ in prohibitions; e.g. μὴ σκώψῃς supporting οὐ μὴ σκώψῃς.²

¹ For a further discussion of the form of the sentences with οὐ μή, in connection with that of clauses with ὅπως and with the Canon Davesianus, see Transactions of the American Philological Association for 1869-70, pp. 46-55.

² Since this paper was written, I have seen that Kvičala, in two articles on οὐ μὴ in the *Zeitschrift für die oesterreichischen Gymnasien* for 1856, proposed an explanation of οὐ μὴ with the subjunctive, which at one important point came very near the view now presented. He states two (apparently theoretical) meanings which he supposes μὴ θάψῃς to have had at some period (zwei Bedeutungsentwickelungen): one, "Du wirst doch wol am Ende, trotzdem dass ich es abzuwehren suche, sterben"; the other, "Ich fürchte, dass du doch wol (trotz meiner Abwehr) sterben werdest." By prefixing οὐ to μὴ θάψῃς in these meanings, he

arrives at two meanings of *οὐ μή* with the subjunctive. The second of these comes so near the independent subjunctive with *μή* in Homer, that it is surprising that neither this nor the equally important *μή* in Plato is mentioned. But no use is made of the advantage here gained in explaining *οὐ μή* with the future indicative, either in prohibitions or in denials. The prohibitions are made interrogative, *οὐ μή δυσμενὲς ἔσσι*; being explained as "Nicht wahr? — du wirst doch nicht feindselig seyn?" The future of denial is explained simply as developed from the interrogative future, as a form of reply to this, by leaving out the interrogative element.

ON SOME DISPUTED POINTS IN THE CONSTRUCTION OF ἔδει, χρῆν, ETC. WITH THE INFINITIVE.

BY W. W. GOODWIN.

IT is a familiar fact that certain imperfects denoting *obligation*, *propriety*, or *possibility*, ἔδει, χρῆν or ἐχρῆν, εἰκὸς ἦν, προσήκεν, ἐξῆν, and others of similar meaning, are used with the infinitive in an idiomatic sense, in which the whole expression becomes a form of potential indicative, referring to past or present time, and generally implying the opposite of the action or the negation of the infinitive. Thus, ἔδει σε ἐλθεῖν means *you ought to have gone (but you did not go)*; ἔδει σε μὴ τοῦτο ποιεῖν, *you ought not to be doing this (but you are)* or *you ought not to have done this (but you did it)*. These imperfects may be used also as ordinary past tenses with no potential force; as when ἔδει μένειν in DEM. xix. 124 means *he had to stay (and did stay)*, or χρῆν Κανδαυλὴ γενέσθαι κακῶς in HDT. i. 8 means *Candaules was doomed to fall into trouble*. The peculiar idiom by which the opposite of the infinitive is usually implied is common to Greek, Latin, and English; as in ἔδει σε τοῦτον φιλεῖν, *hunc colere debebas*, *you ought to love him (but do not)*. So also is the use of the past tenses ἔδει, debebas, and *ought* (past tense of *owe*) to express present time. These combinations are practically equivalent to the verb of the infinitive in the potential indicative (with ἄν), qualified by an adverb or other expression denoting obligation, propriety, or possibility, which expression would stand in the relation of an unreal condition to the verb with ἄν. Thus, εἰκὸς ἦν σε τοῦτο παθεῖν means *you would properly have suffered this (which you did not suffer)*, and is equivalent to τοῦτο ἂν ἔπαθες εἰκότως, or (in full) τοῦτο ἂν ἔπαθες εἰ τὸ εἰκὸς ἔπαθες. The implied unreal condition, however, comes into the expression by idiomatic usage, and is not inherent in the words themselves.

It is generally laid down as an absolute rule that in this idiom the opposite of the infinitive is *always* implied: see Krüger, § 53, 2, 7, where the usual formula is given, that with ἔδει τοῦτο γίνεσθαι we must understand ἀλλ' οὐ γίγνεται, with ἔδει ἂν τοῦτο γίνεσθαι we must understand ἀλλ' οὐ δεῖ. This principle was first formulated, I believe, by G. Hermann. It covers nearly all the ordinary cases, and has

generally been found to be a convenient working rule, though many passages show that it is not of universal application.¹ The following three classes of examples show the need of a more flexible formula.

(1) Εἰ ὑπὸ δδόντος εἶπε τελευτήσῃν με, χρῆν δὴ σε ποιέειν τὰ ποιέεις, *if the dream had said I was to perish by a tooth, you would properly do what you now do*. HDT. i. 39. Here the action of ποιέειν is emphatically affirmed; and if anything is implied in opposition to the apodosis, it would seem to be the opposite of χρῆν. Yet there is no ἄν. Εἰ μὲν οὖν ἅπαντες ὁμολογοῦμεν Φίλιππον τῇ πόλει πολεμεῖν, οὐδὲν ἄλλο ἔδει τὸν παριόντα λέγειν καὶ συμβουλεύειν ἢ ὅπως ἀσφαλίστατα αὐτὸν ἀμυνοῦμεθα, i.e. *if then we were all agreed that Philip is at war with us, the speaker ought to say nothing else and give no other advice than this*, etc. (but he adds that there is another opinion, and therefore it is necessary, ἀνάγκη ἐστίν, to discuss another matter). DEM. ix. 6. Εἰ μὲν γὰρ παρ' ἐμοὶ ἐτέθη τὸ γραμματεῖον, ἐνῆν αἰτιάσασθαι Ἀπατουρίῳ ὡς ἐγὼ ἠφάνικα τὰς συνθήκας, *for if the record-book had been given to me to keep, A. might possibly have charged me with putting the contract out of the way*. Id. xxxiii. 37. By the rule we should expect ἐνῆν ἄν, on the ground that οὐκ ἐνῆν rather than οὐκ ἤγιάσατο is implied. Εἰ ἑώρα μεταμέλον τῇ πόλει τῶν πεπραγμένων, οὐκ ἄξιον ἦν θαυμάζειν αὐτοῦ, *if he had seen that the state repented of its previous acts, we should not properly wonder at him (as we now do)*. ISOC. xviii. 21. The implied opposite seems to include the idea of ἄξιον. Μετὰ τὴν μάχην, ἡνίκ' οὐδ' ἀγνωνομένησαι τι θαυμαστὸν ἦν τοὺς πολλοὺς πρὸς ἐμέ. DEM. xviii. 248. We generally translate, *when it would have been no wonder*; and Westermann gives "entschuldbar gewesen wäre," which seems to require ἦν ἄν. Ἄλλω ἔπρεπεν λέγειν ἂ λέγεις, usually rendered *it were* (or *would be*) *becoming for another to say what you say*, which would be a translation of ἔπρεπεν ἄν. PLAT. REP. 474 D.

¹ See Hermann, *de Particula 'Αν*, I. 12. In discussing SOPH. *Elec.* 1505, χρῆν δ' εὐθὺς εἶναι τήνδε τοῖς πᾶσιν δίκην, Hermann says: "Χρῆν dicit, quia oportere indicat sine condicione: nec potest opponi, ἄλλ' οὐ κρίνεται: nam si oportet, quomodo potest non oportere? At non omnia fiunt, quae oportebat. Itaque quod opponere potes, aliud est: ἄλλ' οὐκ ἔστι."

The "opposite" implied in a negative expression of this kind (even when the negation belongs to the leading verb) is an affirmative. Thus οὐ προσήκεν ἐλθεῖν, *he ought not to have gone*, implies ἄλλ' ἦλθεν.

(2) In the preceding examples it is sometimes thought that ἄν is required with the leading verb, as it would be by the strict letter of the ordinary rule. In concessive sentences like the following, in which the statement precludes the contrary of the apodosis, nothing is implied in opposition to either infinitive or leading verb, so that the rule cannot be applied at all : —

Καὶ γὰρ ἄνευ τούτων (i.e. καὶ εἰ μὴ εἴχετε τούτους, ἐξῆν τοι ποιέειν ταῦτα, i.e. *even if you had not all mankind with you, you could still do what you now do*. HDT. vii. 56. Here ταῦτα ποιέειν is affirmed. Οὐκ ἐξῆν αὐτῷ δικάζεσθαι περὶ τῶν τότε γεγενημένων, οὐδ' εἰ πάντα ταῦτ' ἦν πεποιηκὼς ἃ φησιν οὗτος, *he could not maintain a suit about what then took place, even if I had done all these things which he says I did*. ISOC. xviii. 19. Here neither ἐξεστί nor δικάζεται is implied. Οὐδ' εἰ γνήσιοι ἦσαν, εἰσποίητοι δὲ, ὡς οὗτοι ἔφασαν, οὐδ' οὕτω προσῆκεν αὐτοὺς Εὐκτῆμονος εἶναι, *not even if they had been true sons, but had been afterwards adopted into another family, as these maintained, — not even in this case would they now belong by right to Euctemon's house*. ISAE. vi. 44. Here the argument strives to show that they could not belong to E.'s house in any case. Εἰ γὰρ ἦν ἅπασι πρόδηλα τὰ μέλλοντα γενήσεσθαι, . . . οὐδ' οὕτως ἀποστατέον τῇ πόλει τούτων ἦν, i.e. *Athens ought not even then to have withdrawn from this policy*, which she followed (ἀποστατέον ἦν = ἀποστήναι ἔδει). DEM. xviii. 199. See also DEM. xv. 28. Εἰ γὰρ μηδὲν εἴχετε τῶν ἄλλων λογίσασθαι, μηδ' ἐφ' ὑμῶν αὐτῶν οἰοί τε ἦτε ταῦτα συνεῖναι, ἦν ἰδεῖν παράδειγμα Ὀλυνθίους τουτουσί, *for although you had no other cases to consider, and could not learn this lesson in your own experience, you might have seen an example in these Olynthians*. Id. xxiii. 107.

(3) The examples just quoted seem to show that in these concessive sentences, with ἔδει etc. and an infinitive in the apodosis, the action of the infinitive is not denied but emphatically affirmed. But in the following examples the action of the infinitive is denied, notwithstanding the concessive protasis : —

Οὐδ' εἰ γὰρ ἦν τὸ πρᾶγμα μὴ θεήλατον, ἀκάθαρτον ὑμᾶς εἰκὸς ἦν οὕτως ἔαν, *for even if the duty were not urged upon us by a God, you ought not to leave the guilt unpurged (as you do)*. SOPH. O. T. 255. Καλὸν ἦν, εἰ καὶ ἡμαρτάνομεν, τοῖσδε εἶξαι τῇ ἡμετέρᾳ ὀργῇ, ἡμῶν δ' αἰσχρὸν (sc. ἦν) βιάσασθαι τὴν μετριότητα, *if we had even been in the wrong, they might fairly have yielded to our wrath, while we could*

not have done violence to their moderation without disgrace. THUC. i. 38. (Here the opposite of each infinitive is implied.) *Ἀξίον ἦν, εἰ καὶ μηδὲν αὐταῖς πρότερον ὑπῆρχεν ἀγαθόν, (ταύτας) τῆς μεγίστης δωρεᾶς παρὰ τῶν Ἑλλήνων τυχεῖν, *these states, even if they had no other merit to rely on, deserved to receive (would deservedly have received) the greatest reward from the Greeks* (which in fact they did not receive). ISOC. xii. 71.

It is well known that the imperfects in question (without ἄν) can be used with the infinitive in two ways, — (a) alone, with no protasis expressed or implied except the condition which is contained in the expression itself, as in ἔδει σε ἐλθεῖν, *you ought to have gone*; and (b) as the apodosis of an unreal condition, as in εἰ οὗτός σε ἐκέλευσεν, ἔδει σε ἐλθεῖν, *if he had commanded, you, you should have gone*. It will be noticed that all the examples quoted above under (1), except the last two, and all under (2), are of the latter class, for in HDT. vii. 56, ἄνευ τούτων represents εἰ μὴ εἶχετε τούτους. If now we take the apodoses of these sentences apart from their protases, we shall find that no one of them can then have the meaning which it now has. For example, in HDT. i. 39, χρῆν σε ποιεῖν τὰ ποιεῖς would not be Greek at all as a potential expression, for χρῆν σε ποιεῖν would mean *you ought to do* (something which you do not do). In DEM. xxxiii. 37, ἐνὶν αἰτιάσασθαι by itself would mean *he might have charged me* (but did not). Οὐκ ἐξῆν αὐτῷ δικάζεσθαι could mean only *he could not maintain a suit as he does*; that is, it would mean nothing without a protasis. Οὐ προσήκεν αὐτοῖς Εὐκτῆμονος εἶναι by itself would mean *they ought not to belong to E.'s house as they do*. Οὐκ ἀποστατέον ἦν alone would mean *she ought not to have withdrawn as she did*. So ἦν ἰδεῖν παράδειγμα would mean *you might have seen (but you did not see) an example*. (Compare DEM. xxviii. 10, τὴν διαθήκην ἠφανίκατε, ἐξ ἧς ἦν εἰδέναι τὴν ἀλήθειαν, *the will, from which we might know the truth*.)

When these potential expressions without ἄν stand alone, they always imply the opposite of the action or the negation of the infinitive; so that εἰκὸς ἦν σε τοῦτο παθεῖν by itself can mean only *you would properly have suffered this* (but you did not). This is necessary because the equivalent of this form, τοῦτο ἂν ἔπαθες εἰ τὸ εἰκὸς ἔπαθες, always involves οὐκ ἔπαθες τοῦτο, since τοῦτο and τὸ εἰκὸς are here made identical, and τὸ εἰκὸς ἔπαθες is denied. When, however, one

of these expressions is made the apodosis of an unreal condition external to itself, it may be so modified by the new condition as no longer to imply the opposite of the infinitive as before. (See pp. 86, 87.) This is the case with the first three examples under (1), in which we certainly do not find οὐ ποιεῖς, ἄλλο λέγει καὶ συμβουλεύει, and οὐκ ἤτιάσατο implied in the form of expression. Before examining these passages further, it is important to fix more precisely the distinction between ἔδει etc. without ἄν with the infinitive, and the equally familiar ἔδει ἄν etc. with the infinitive. As we cannot make the denial of the infinitive an absolute test of the use of the form without ἄν, so we cannot make the denial of the leading verb an absolute test of the use of the form with ἄν. The following rules will be found to cover the regular cases and also the apparent exceptions:—

1. The form without ἄν is used when the infinitive is the principal word, on which the chief force of the expression falls, while the leading verb is an auxiliary which we can express by *ought*, *might*, *could*, or by an adverb.

2. On the other hand, when the chief force falls on the necessity, propriety, or possibility of the act, and not on the act itself, the leading verb has ἄν, like any other imperfect in a similar apodosis.¹

Examples of the latter use are generally regular. We quote only DEM. iv. 1, εἰ τὰ δέοντα οὗτοι συνεβούλευσαν, οὐδὲν ἄν ὑμᾶς νῦν ἔδει βουλεύεσθαι, *if these had given you the necessary advice, there would be no need of your deliberating now*. Here, as in all the ten examples of ἔδει ἄν quoted by La Roche, we find ἔδει ἄν in its meaning *there would be* (or *would have been*) *need*, whereas in the form without ἄν we generally have ἔδει in the sense of *ought*, expressing *obligation* and not *necessity*. Of course, the idea of necessity is incompatible

¹ See La Roche on “ἄν bei ἔδει und ἐξήν” in the Zeitschrift für die oesterreichischen Gymnasien for 1876, pp. 588–591. He professes to give all the cases; but his twenty-one examples of ἔδει ἄν include eleven in which ἔδει has the genitive of a noun and no infinitive. Omitting these, we have only ten of ἔδει ἄν with the infinitive: THUC. i. 74; LYS. Frag. 56 (88 Scheibe); ISOC. xv. 17; ISAE. iv. 4; DEM. iv. 1; PLAT. Rep. 328 C, Theat. 169 E, Gorg. 514 A, Alc. i. 119 B; DEM. lvii. 47 (only the last three affirmative); with four of ἐξήν ἄν: LYS. iv. 13, Frag. 47 (79 Scheibe); ISAE. x. 13; DEM. xxiv. 146. He finds χρῆν ἄν only in LYS. xii. 48, where he proposes to omit ἄν, overlooking χρῆν ἄν προσδοκῆσαι in DEM. xviii. 195. Both of these passages are discussed below, pp. 85, 86.

with that of an act not done. If La Roche's statistics are complete here, we see that the Greeks almost always expressed obligation or propriety, and generally expressed possibility, by the form without *ἄν*, reserving *ἔδει ἄν* for the idea of necessity, and *ἐξήν ἄν* for a few cases in which the idea of possibility was to be made specially emphatic.

It is not surprising, under these circumstances, that the form without *ἄν* should often be used where we are at first inclined to think *ἄν* is required. It must be remembered that the real apodosis here is not the central infinitive alone, but this infinitive modified by the idea of obligation, propriety, or possibility in the leading verb, that is, conditioned by the implied protasis which the expression includes. (See p. 87.) This modification may be so slight as to leave the infinitive the only important word in the apodosis; in this case the opposite of the infinitive is generally implied, as it always is when no protasis is added: thus, EUR. *Med.* 586, *χρῆν σ', εἴπερ ἦσθα μὴ κακός, πείσαντά με γαμῆν γάμον τόνδε*, implies *ἀλλ' οὐκ ἐγάμεις πείσας με*. It may be so great as to make the idea of obligation, etc., a prominent factor in the apodosis, still stopping short of the point at which this favorite Greek idiom was abandoned and an ordinary apodosis with *ἄν* was substituted in its place. The Greeks preferred the form without *ἄν* almost always where we can express the apodosis by the verb of the infinitive with *ought*, *might*, or *could*, or with an adverb, although we sometimes find it hard to express the combined idea in English without giving undue force to the leading verb. Sometimes, when the idea of obligation, propriety, or possibility is specially prominent in the apodosis, although no *ἄν* is used, the opposite that is suggested combines this idea with that of the infinitive. This is the case with the first four examples in (1). In HDT. i. 39, the apodosis is *you would then properly do what you now do* (or *you would then, if you did what you ought, do what you now do*), implying *now you do not do this properly*. With *χρῆν ἄν* it would have been *it would then be your duty to do what you now do*, or (if *χρῆν ἄν* had the force of *ἔδει ἄν*) *it would then be necessary for you to do what you now do*, the chief force being transferred from the act to the duty or necessity. Still, this change might have been made without otherwise affecting the sense. In DEM. ix. 6, the apodosis is *in that case the speaker would properly talk of nothing else than this* (implying *now he may properly talk of another matter*); whereas with *ἔδει ἄν*

it would be *there would then be no need of his talking of anything else*, with greater emphasis on the ἔδει and a change of meaning. In DEM. xxiii. 37, ἐνὶν αἰτιάσασθαι means *he might then possibly have accused me*, implying *he could not possibly accuse me as it was*; with ἐνὶν ἄν it would have been *it would then have been possible for him to accuse me*, the emphasis being transferred with no other change of sense. In ISOC. xviii. 21, the apodosis, *in that case we ought not to wonder at him or we should not properly wonder at him*, is equivalent to οὐκ ἄν ἐθαυμάζομεν ἄξιως, with the opposite implied, *now we do wonder at him properly* (νῦν θαυμάζομεν ἄξιως). This combination of two ideas in an apodosis of this kind is analogous to that which we often find in an ordinary apodosis with ἄν; thus, in ISOC. vi. 87, οὐχ οὕτω δ' ἄν προθύμως ἐπὶ τὸν πόλεμον ὑμᾶς παρεκάλουν, εἰ μὴ τὴν εἰρήνην ἐώρων αἰσχρὰν ἐσομένην, *I should not exhort you with all this zeal to war, did I not see, etc.*, the apodosis which is denied includes οὕτω προθύμως. Compare ISOC. xii. 71, quoted p. 80.

The first four examples in (1) confirm the reading of the best manuscripts in EUR. Med. 490, εἰ γὰρ ἦσθ' ἄπαις ἔτι, συγγνωστὸν ἦν σοι τοῦδ' ἐρασθῆναι λέχους, which may be translated *for if you had remained still childless, you might pardonably have become enamored of this new marriage*, the apodosis being equivalent to τοῦδ' ἡράσθης ἄν with an adverb meaning *pardonably*. If no protasis had been added, συγγνωστὸν ἦν σοι ἐρασθῆναι (as a potential expression) could have meant only *you might pardonably have fallen in love (but you did not)*; and then συγγνωστὸν ἄν ἦν would certainly have been necessary to give the meaning *it would have been pardonable (but now it is not so)*. Compare οὐδ' ἀγνωμονήσαι τι θαυμαστὸν ἦν in (1). With εἰ ἦσθ' ἄπαις ἔτι added, we may understand as implied *you were not pardonably enamored*. The other reading συγγνώστ' ἄν ἦν σοι would make the same change which χρῆν ἄν, ἔδει ἄν, ἐνὶν ἄν, and ἄξιον ἄν ἦν would make in the first four passages in (1). Such an insertion of ἄν would withdraw attention from the prominent idea, which is in ἐρασθῆναι (= ἡράσθης ἄν), and would make συγγνωστὸν the most important word. Here, as elsewhere in these expressions, the English translation of the Greek idiom is faulty; but it should aim to throw the force of the apodosis upon the infinitive, as when we translate εἰκὸς ἦν σε ἀποθανεῖν *you would deservedly have perished*, or ἐξῆν σε μένειν *you might have remained*.

A striking illustration of the modification of the infinitive in an apodosis of this kind by the force of the leading verb may be seen in the examples under (3). Here in concessive sentences, in which the apodosis must be affirmed, we find the action of the infinitives denied. This shows that the infinitive alone is not the real apodosis. In SOPH. *O. T.*, 255, the actual apodosis is *you would not properly leave the guilt unpurged* (implying *you do not properly leave it*). In THUC. i. 38, the apodosis is *they would fairly have yielded* (implying *they did not yield, but it was fair that they should*). In ISOC. xii. 71, it is *they would deservedly have received*, = *ἐτυχον ἂν ἀξίως* (implying that it was only *undeservedly* that they *failed to receive* the reward). The remarks that have been made above apply also to the concessive sentences in (2), in which nothing in the apodosis is denied. Here, too, the form with ἂν might have been used by transferring the force of the expression from the infinitive to the leading verb.

It has been seen that *ἔδει ἂν* with the infinitive differs from *ἔδει* without ἂν in meaning as well as in the balance of emphasis. On the other hand, *ἐξήν ἂν* differs from *ἐξήν* only in the latter respect. See ISAE. x. 13, *τῷ μὲν πατρὶ αὐτῆς, εἰ παῖδες ἄρρενες μὴ ἐγένοντο, οὐκ ἂν ἐξήν ἀνευ ταύτης διαθέσθαι*, i.e. *in that case he would not have been permitted (by law) to leave his daughter out of his will*; and DEM. xxiv. 146, *οὔτε γὰρ ἂν ἐξήν ὑμῖν τιμᾶν ὅτι χρὴ παθεῖν ἢ ἀποτίσαι*, i.e. *if this law were passed, you would not have the power (which you now have) of assessing penalties*. Compare with these ISOC. xviii. 19, *οὐκ ἐξήν αὐτῷ δικάζεσθαι*, *he could not* (in that case) *maintain a suit*, where *ἐξήν ἂν* would only give more emphasis to the possibility, which is done in the preceding examples. For the ordinary use of *ἐξήν* and the infinitive see PLAT. *Crit.* 52 C, *ἐξήν σοι φυγῆς τιμῆσασθαι εἰ ἐβούλου*, *you might have proposed exile as your penalty if you had wished to* (implying only *οὐ φυγῆς ἐτιμῆσω*).

In the last two examples under (1), in which there is no protasis added to the potential expression, so that the opposite of the infinitive alone is implied, the form without ἂν has the same justification, though in both it is difficult to translate the infinitive so as to make it equivalent, as it is, to a past tense of the indicative with ἂν. In DEM. xviii. 248, *οὐδ' ἀγνωμονῆσαι τι θαυμαστὸν ἦν τοὺς πολλοὺς πρὸς ἐμέ* means *the mass of the people might then have been somewhat unmindful of me* (*ἠγνωνόνησαν ἂν τι πρὸς ἐμέ*) *without doing anything won-*

derful (i.e. if they had done a very natural thing). But θαυμαστόν ἂν ἦν would have thrown undue emphasis on θαυμαστόν, meaning *it would not have been wonderful for the people to have been somewhat unmindful*. In PLAT. *Rep.* 474 D, ἄλλω ἔπρεπεν λέγειν ἂ λέγεις is equivalent to ἄλλος ἔλεγεν ἂν πρεπόντως ἂ λέγεις, *another would becomingly say what you say*, the opposite of λέγειν being implied. Ἐπρεπεν ἂν λέγειν also might have been used with a change of emphasis.

It remains to discuss two passages in which χρῆν ἂν occurs, with a view to La Roche's disbelief in the existence of this form (see p. 81). In DEM. xviii. 195, we have χρῆν and χρῆν ἂν in close succession, with no essential change in meaning except the difference in emphasis above explained. The sentence is: εἰ μετὰ Θηβαίων ἡμῖν ἀγωνιζομένους οὕτως εἶμαρτο πράξαι, τί χρῆν προσδοκᾶν εἰ μὴδὲ τούτους ἔσχομεν συμμάχους; . . . καὶ εἰ νῦν τριῶν ἡμερῶν ἀπὸ τῆς Ἀττικῆς ὁδὸν τῆς μάχης γενομένης τοσούτος κίνδυνος καὶ φόβος περιέστη τὴν πόλιν, τί ἂν, εἴ ποὺ τῆς χώρας ταῦτὸ τοῦτο πάθος συνέβη, προσδοκῆσαι χρῆν; i.e. *when it was fated that we should fare as we did with the Thebans on our side, what ought we to have expected (which we did not find ourselves expecting) if we had not secured even these as allies? And, if so great danger and terror surrounded the city when the battle was fought two or three days' journey from Attica, what should we have had to expect (which we did not really have to expect) if this calamity had occurred within our own country?* Here the unreal supposition of not having secured the Thebans as allies, or (its probable consequence) the battle of Chaeronea having been fought in Attica, suits either form of apodosis, τί χρῆν προσδοκᾶν; or τί ἂν χρῆν προσδοκῆσαι; the expectation itself in the former case, and the necessity for the expectation in the latter, being specially emphasized. It is hard to believe that the orator felt any important change in the general force of his question when he added ἂν in the second case.

In Lys. xii. 32, we have, addressed to Eratosthenes, χρῆν δέ σε, εἴπερ ἦσθα χρηστός, πολὺ μᾶλλον τοῖς μέλλουσιν ἀδίκως ἀποθανεῖσθαι μνηστὴν γενέσθαι ἢ τοὺς ἀδίκως ἀπολουμένους συλλαμβάνειν, *if you had been an honest man, you ought to have become an informer in behalf of those who were about to suffer death unjustly, much rather than (and not) to have arrested (as you did) those who were doomed to perish unjustly*; but in 48, referring to the same man and the same acts, the orator says εἴπερ ἦν ἀνὴρ ἀγαθός, ἐχρῆν ἂν πρῶτον

μὲν μὴ παρανόμως ἄρχειν, ἔπειτα τῇ βουλῇ μηνυτὴν γενέσθαι, κ.τ.λ., *if he had been an honest man, he would have had, first, to abstain from lawlessness in office, and, next, to come before the Senate as an informer*, etc. La Roche proposes to omit ἄν in the second passage, because it would be absurd to suppose that ἄλλ' ἐχρῆν is implied in the sense that *E. had a right to be lawless in office* ("er durfte paranómōs ἄρχειν"), because he was not honest. What is implied is rather ἄλλ' οὐκ ἐχρῆν μὴ παρανόμως ἄρχειν, i.e. *not being an honest man, he did not have to abstain from lawlessness in office*, etc., which we can understand without absurdity. The passage, like so many sentences of this class, is simply an argument to prove that E. was not honest. *If he had been honest* (it is said), *he would have had to do certain things* (which, it is implied, all honest men do); *but he did not do these* (as is stated, εἰς τὴν ἀρχὴν καταστάς ἀγαθοῦ μὲν οὐδενὸς μετέσχευ, ἄλλων δὲ πολλῶν); *therefore he was not honest*. There is a slight slip in showing that he *did not do* the things in question, and not that *he did not have to do* them; so that of the two constructions, χρῆν in 32 and ἐχρῆν ἄν in 48, the former is more strictly logical. This use of ἐχρῆν ἄν is the counterpart of that of χρῆν, ἔδει, ἐνὴν, and ἄξιον ἦν in the passages quoted above (1), where the forms with ἄν might have been used.

The following objection may here be raised. If ἔδει τοῦτον ἀποθανεῖν, *he ought to have been put to death*, involves an unreal protasis, the denial of which carries with it the negation of the principal verb (here ἀποθανεῖν), why does not this same denial take place also when another protasis is added, since the implied protasis still remains as before? When several protases, not co-ordinate, belong to the same sentence, one always contains the leading condition, to which the rest of the sentence (including the other conditions) forms the conclusion. When this leading condition is unreal, it makes all subordinate past or present conditions also unreal, so far as the supposed case is concerned, without regard to their own nature. Thus, in DEM. iv. 1, after the leading unreal condition, εἰ περὶ καινοῦ τινος πράγματος προϋτίθετο λέγειν, *if it were proposed to speak on any new subject*, there are two directly opposite suppositions, εἰ μὲν ἤρεσκε and εἰ δὲ μὴ, *if what was said pleased me* and *if it did not*, both stated as unreal, which would be impossible unless the leading supposition had made the whole state of things supposed in the sentence unreal. It is

obvious, therefore, that a subordinate condition may refer to a case which is not *in itself* unreal, although it is part of a supposition which *as a whole* is unreal. This can easily be seen in English; for we can say, *If he had been an Athenian, he would have been laughed at if he had talked as he did*, by no means implying that the latter subordinate supposition is contrary to fact, although it is part of an unreal state of things, and would be expressed in Greek by εἰ ἔλεγεν. This is now the relation of the unreal protasis involved in εἰκὸς ἦν σε τοῦτο παθεῖν, when this expression is made the apodosis of a new unreal condition. Thus, when χρῆν σε ποιεῖν in HDT. i. 39, which by itself could admit only an unreal object, follows εἰ ὑπὸ ὀδόντος ἔπε τελευτήσῃν με, even τὰ ποιεῖς can be its object, and the whole can mean *if the dream had said I was to perish by a tooth, you would do what you now do if you did what was right*. The new chief protasis that has come in has changed the whole relation of the old implied protasis to the sentence as a whole. See PLAT. *Apol.* 17 D, εἰ ξένος ἐτύγχανον ὦν, ξυνεγινώσκετε δήπου ἂν μοι εἰ ἐν ἐκείνῃ τῇ φωνῇ τε καὶ τῷ τρόπῳ ἔλεγον ἐν οἷσπερ ἐτεθράμμην, i.e. *if I were a foreigner, you would pardon me if I spoke in my own dialect*. So EUR. *Suppl.* 1084, εἰ δ' ἦμεν νέοι δις καὶ γέροντες, εἴ τις ἐξημάρτανε, δεπλοῦ βίου λαχόντες ἐξωρθούμεθ' ἂν, *if we were twice young and twice old, in case any one of us made a mistake, we should secure a double life and set ourselves right*.¹

The Latin follows precisely the same principle as the Greek in the use of such imperfects as *debebat*, *licebat* (= χρῆν, ἐξῆν), and *deberet*,

¹ It seems to me that this principle gives the only satisfactory solution to the apparent paradox in SOPH. *Oed. Tyr.* 221, οὐ γὰρ ἂν μακρὰν ἵχνευον αὐτὸς, μὴ οὐκ ἔχων τι σύμβολον, where μὴ οὐκ ἔχων is obviously equivalent to the conditional form εἰ μὴ εἶχον, while there is yet no such opposite implied as *but I did have a clue*. The chief condition appears to me to lie in the intensive αὐτὸς, *by myself*, i.e. *if I were undertaking the search by myself*, which is especially forcible after ξένος μέν and ξένος δέ, and is equivalent to εἰ μόνος ἵχνευον. The meaning then is, *for I should not be very far on in my search, if I were attempting to trace it by myself without any clue*. Thus, μὴ οὐκ ἔχων τι σύμβολον, *without any clue*, becomes part of the unreal supposition, without being itself contrary to fact. The negative μὴ shows that μὴ οὐκ ἔχων forms part of the protasis, and does not merely add a descriptive clause to the apodosis as if it were οὐκ ἔχων. In fact, it is difficult to see how in any other way than this we can have μὴ οὐκ ἔχων, representing εἰ μὴ εἶχον, without involving the idea that Oedipus *had a clue* in his search. This remark will apply to μὴ οὐκ ἔχων here, whatever unfulfilled condition we supply with οὐ . . . ἵχνευον.

liceret (= *χρῆν ἄν*, *ἐξῆν ἄν*), with reference to present time. But when such expressions are past, the Latin uses *debuit* or *debuerat* in the sense of *χρῆν*, and *debuisset* for *χρῆν ἄν*, both with the present infinitive; while the Greek keeps the imperfect in all cases. See Cic. *Phil.* ii. 99, *Quem patris loco, si ulla in te pietas esset, colere debebas* (= *χρῆν σε φιλεῖν*), *you ought to love (but you do not)*; and *Cluent.* 18, *Cluentio ignoscere debebitis quod haec a me dici patiatur; mihi ignoscere non deberes si tacerem* (= *οὐ ἄν σε ἐμοὶ συγγιγνώσκων χρῆν εἰ ἐσιγῶν*), *it would not be right for you to pardon me if I were silent*. In the former case the emphasis falls on *colere*; in the latter on *non deberes*, which is in strong antithesis to *debebitis*. See also Cic. *Verr.* ii. 5, 50: *Qui ex foedere ipso navem vel usque ad Oceanum, si imperassemus, mittere debuerunt, ei, ne in freto ante sua tecta et domos navigarent, . . . pretio abs te ius foederis et imperii condicionem redemerunt, they who were bound by the very terms of the treaty, if we had commanded it, to send a ship even into the Ocean, etc.* So far as any opposite is implied here, it is not that of *mittere*, but rather something like what is implied in the first four examples in (1), like *they did not have to send*. *Mittere debuissent* (*ἔδει ἄν πέμψαι*) would mean *they would have been bound to send*. In Latin, as in Greek and English, the peculiar force of the past tense of the indicative with the infinitive is purely idiomatic.

In conclusion, it may be remarked that the idiomatic use of *ἔδει* etc. with the infinitive may be found in the same sentence with the ordinary use of these imperfects as past tenses, with no reference to any condition. A familiar case is in the New Testament, MATTH. xxiii. 23, *ταῦτα δὲ ἔδει ποιῆσαι κάκεῖνα μὴ ἀφείναι*, *these (the weightier matters of the law) ought ye to have done, and yet not to have left the others (taking tithes) undone*. This is equivalent to two sentences, *ταῦτα ἔδει ὑμᾶς ποιῆσαι*, *ye ought to have done these (which ye did not do)*, and *ἐκεῖνα ἔδει ὑμᾶς μὴ ἀφείναι*, *ye were right in not leaving those undone (which ye did not leave undone)*. In DEM. xviii. 190, *τί τὸν σύμβουλον ἐχρῆν ποιεῖν; οὐ . . . ἐλίσθαι*; nothing in the words shows whether the action of *ἐλίσθαι* is real or not; but the following *τοῦτο τοῖνυν ἐποίησα* shows that the questions refer merely to a past duty which the speaker actually performed.

NOTES ON QUINTILIAN.

BY GEORGE M. LANE.

Shall we say divōm or divom in the genitive plural?

OF the genitive plural suffix *-om* Professor Stolz says in his grammar, p. 210:—

‘Es ist nach den Ausführungen OSTHOFF’s M. U. 1, 207 f. wahrscheinlich, dass das idg. Suffix zur Bildung dieses Casus *-om* gewesen sei. Das Lateinische trägt zur Entscheidung, ob *-om* oder *-ōm* die ursprüngliche Form gewesen sei, nichts bei, da alle auf *-m* auslautenden langen Silben der Kürzung unterlagen (Priscian 1, 366 H). . . . Auch die *o*-Stämme bildeten ursprünglich den Gen. d. Plur. mittels des Suffixes *-om*, daher als Münzlegenden *Romanom*, *Corano(m)*, vgl. osk. *Nūvlanūm*, umbr. *puḡlu(m)*, gr. θεῶν.’

Some indications of the quantity of this *o* in *-o*-stems may be found inside the Latin language itself. They are put together here in the hope that if attention is once directed to this point, other and perhaps better evidences may be found.

(1) That the *o* of this genitive plural was originally long is indicated by coins struck before the first Punic war. Mommsen says of these (CIL. I, p. 9):—

‘In his non casu, sed consulto post longam vocalem omissam esse *m* finalem demonstrat cum huius omissionis summa constantia (nam *m* reperitur post *ō* tantum in *Romanom* n. 1, et in *Aiserninom* n. 20, quod utrumque et singulare est et dubium), tum quod post correptam vocalem, ut in *Volcanom* quarto casu, praeterea in *Aisernim*, *propom*, *prboum*, eadem littera in iisdem nummis semper adest.’

Briefly: in the genitive plural, *m* is regularly dropped after *o*; in singular forms it is always retained after *o*. This consistent variation indicates an essential difference between the two *o*’s, and this difference can hardly be anything but a difference in quantity.

(2) An additional evidence for the long *ō* or *ū* is found in the apex occurring in an inscription of Nuceria, in which all the apices are

used with care : DVVMVIRATVS (IRN. 2096 ; CIL. X, n. 1081). Attention was called to this inscription as long ago as 1856 by Schmitz, *Rhein. Mus.* X, 110. Little or no stress, however, is to be laid on the *u* longa of DEVM, in another inscription quoted by Schmitz, *Beiträge*, p. 29, from Gruter, p. 29, 2, as an evidence of long *ū*. This particular inscription is now regarded as forged : see CIL. VI, 5, n. 3143*.

(3) A passage of Quintilian (1, 6, 18) bearing upon this question has been overlooked by grammarians : —

idem 'centum milia nummum' et 'fidem deum' ostendant duplicis quoque soloecismos esse, quando et casum mutant et numerum.

This innocent conception of the genitive plural 'nummum' and 'deum' as misused accusatives singular, shows that in Quintilian's day the *u* of the old form of the genitive plural was always short.

To put the chronological evidence then roughly into figures, we have : (1) Evidence of long *ō* in coins before the first Punic war ; also of long *ū* in the Nuceria inscription, certainly as late as 63 B.C. Exactly where this inscription is to be put between the limits of 63 B.C. and 79 A.D. is hard to say : Mommsen seems dimly to refer it to the time of the earthquake of 63 A.D. (p. 124) ; but possibly the form EQVOM occurring in it may be a faint indication of an earlier date. (2) We have evidence that the long *ō* or long *ū* had disappeared, and was entirely forgotten, about 100 A.D.

Originally, therefore, *divōm*, then, as might have been expected, *divōm*, *divūm*, or *deūm*.

A Bad Example.

Quintilian is made to say (1, 4, 27) : —

iam quosdam illa turbabunt, quae declinationibus non tenentur. nam et quaedam participia an uerba an appellationes sint dubitari potest, quia aliud alio loco ualent, ut 'lectum' et 'sapiens,' et quaedam uerba appellationibus similia, ut 'fraudator nutritor.'

So Halm and Meister. The general sense is : taking a word by itself, without the context, you cannot always make out what part of

speech it is. Thus, 'sapiens' may be a participium, *smacking, tasting*, or an appellatio, *sage*.

But what about 'lectum,' and how does that illustrate the principle? If it is to be participle or appellative, it must mean *chosen, picked, or bed, couch*. Surely this is a very bad example. First, why the accusative of 'lectus,' *bed*, when the other examples are in the nominative, 'sapiens fraudator nutritor'? Cf. 1, 4, 20: ut esset uocabulum corpus uisu tactuque manifestum, 'domus lectus,' appellatio, cui uel alterum deesset uel utrumque, 'uentus caelum deus uirtus.' Secondly, there is a difficulty in the quantity of the *e*, it being *ē* in 'lēctum,' *bed*, and *ē* in 'lēctum,' *picked*; unless Quintilian is thinking merely of *eye* Latin, and regards only the look of the word, and not the sound.

The least touch of the pen will heal the difficulty. For 'lectum' read 'tectum,' as participium, *covered*, as appellatio, *roof, house*.

Rehabilitation of Medea's Nurse.

The passage in Quintilian, 1, 4, 16, which was not understood by Spalding or by Bonnell, and is given up as hopeless by the last two editors, Halm and Meister, may be restored by a very simple change, with a word of explanation. It reads in Halm and Meister thus:—

quid o atque u permutata inuicem? ut 'Hecoba' et '†notrix,' 'Culcides' et 'Pulixena' scriberentur.

The hitch lies in the word '†notrix,' which is adopted, though not without question, by both editors.

Looking to the manuscript authority for '†notrix,' we find it amounts to nothing. The Ambrosian and all the other manuscripts give 'nutrix,' which is quite right, and should not have been displaced from the text. The form '†notrix' is due to a whim of the corrector of the Ambrosianus.

This corrector assumes that there are two pairs of illustrations: (1) one pair of 'o put for u,' as 'Hecoba' and '†notrix,' and (2) one pair of 'u put for o,' as 'Culcides' and 'Pulixena.'

As to 'Hecoba,' as an anterior form for 'Hecuba,' there is of course no trouble. But then the '†nōtrix' for 'nūtrix.' If the cor-

rector had only had the patience to read the next words, he would have seen how impossible '†notrix' was. Quintilian goes on without a break : —

ac ne in graecis id tantum notetur, 'dederont' et 'probaueront.'

Obviously, therefore, Quintilian's remark is only intended for Greek words, and so '†notrix' would be out of place as an illustration, even if there were the best manuscript authority for it.

This leaves us three illustrations of the dictum, 'Hecoba,' 'Culcides,' and 'Pulixena,' instead of two pairs.

Now, what is to become of 'nutrix'? 'Nutrix' and 'Culcides' belong together, and 'Culcides' is conceivably a genitive form, inasmuch as such genitives as 'Salutes Apolones,' etc., are not unheard of. But as they hardly become part and parcel of the literary language, it is safe to make a little change, as has already been suggested by Seyffert, and write 'Culcidis' for 'Culcides.'

Who the 'Culcis' is, it is hardly necessary to explain: 'Colchis,' the *Colchian dame*, is the stereotype designation of Medea, from Euripides (*Med.* 131), down : —

ἔκλυον δὲ βοᾶν τᾷς δυστάνου
Κολχίδος,

and the 'inpudica Colchis' of Horace (*Epod.* 16, 58), and 'callida Colchis' of Ovid (*Mett.* 7, 301) are so familiar that it is needless to give further illustrations.

The 'nutrix,' too, the faithful *bonne* of the Colchian dame, or as Sheridan would call her, 'the confidante in white linen,' the τροφός of Euripides, the 'antiqua erilis fida custos corporis' of Ennius, with her memorable 'utinam ne,' is almost as familiar a character as Medea herself.

But why 'nutrix' at all, when the illustration is confined to 'Culcidis'? Because the combination is more suggestive, more quotable than the genitive alone would be. Thus, in 1, 5, 13, the illustration is confined to the word 'Canopitarum'; but Quintilian gives it 'Canopitarum exercitum.' And so the combination 'nutrix Culcidis,' — τροφὸς τῆς Κολχίδος, — possibly the ending of a senarius culled from some early Medea-tragedy, is more suggestive than the bare 'Culcidis' would be.

SOME LATIN ETYMOLOGIES.

BY J. B. GREENOUGH.

1.	<i>reciprocus</i>	<i>proceres</i>	<i>recipero</i>
	<i>procul</i>	<i>procum</i>	<i>recens</i>
	<i>Proculus</i>	<i>proximus</i>	
	<i>Proculeius</i>		
	<i>Procas</i>		

The word *reciprocus*, already analyzed by Corssen (Nachträge, p. 136) into a *dvandva* compound of †*recus* and †*procus*, has been treated also, without knowledge of Corssen's suggestion,¹ by Brugmann (Rhein. Mus. 1888, part 3, p. 402).

In both articles a supposed †*procus* (*pro* + *cus*, like *superbus*, *anticus*) is traced as appearing in *procul*, *Proculus*, *Proculeius*, and *Procas*. In the article of Brugmann it is traced also in *procum* (genitive plural), used by Cicero (*Or.* 46, 156) in connection with *fabrum*, apparently in the sense of *pioneers*. The writer presented at the meeting of the American Philological Association in July, 1887, the article here printed, with the same forgetfulness of the previous suggestion of Corssen. In that communication, in addition to the words previously connected with †*procus*, was mentioned *proximus*, which is at once seen upon the recognition of †*procus* to be its superlative (cf. *proximus ab*, showing the underlying idea of *off*). As a superlative it corresponds in form to *oxime*, superlative of *ociter*, adverb of a lost †*ocus*. The connection of meaning is recognizable through the double use of *procul* for *near by* and *far off*. The original meaning of that word was evidently *off*, or *in front*, as we say *off the coast*, meaning *just off*, *close by*, though the fundamental idea of our expression is one of separation. The idea of distance became the common one in *procul*, while the idea of nearness

¹ See note on last page of Rhein. Mus. cited.

is perpetuated in *proximus*. *Prope* is most likely a dialectic kindred form (cf. the construction *prope ab*, and for the form, *quisquam* and *quispiam*).

Procax, forward, wanton, seems a natural derivative, either directly or through a verb †*proco*. *Proceres* is a further formation of †*procus*, in the fashion of *Camurus*, *satur*, and *φοβερός*. One might be tempted to connect also *procērus*, whereby a natural derivation would be at once suggested for *sincerus* (cf. *singuli*).

No attempt has been made, however, to prove the existence of †*recus* in any other combination than *reciprocus*. But (to continue the original communication) we have the verb *recipero*, which obviously can have nothing to do with *recipio*, since there is no analogy for such a formation, and no form †*recipus* is probable. The word must be a denominative from †*reci-perus*, which can hardly be anything but †*recus* and *-parus*, as in *opi-parus*, *pro-perus* (and probably a lost †*imperus*, from which *impero*). The same *-parus* is found in the so-called derivatives from *pario*, *viviparus*, and the like.

The form †*recus* is also clearly recognizable as the source of a demonstrative †*receo*, of which the present participle is retained in *recens*, meaning *being back, coming back* (probably from abroad or the field, just as in our late war one might have said, "Colonel So-and-So is *back* for a few days"). It must be remembered that in the earlier period of the Latin language—the period when these words were forming—the Romans were absorbed in extending their boundaries. (Cf. *provincia*, No. 8, below.) From *being back* to *just back, fresh, recent*, the step is a very natural one.

This idea is strongly confirmed by the regular construction of *recens* with the ablative of the terminus *a quo*. This is so habitual that Cicero can say, *Roma recens*, meaning *just come from Rome*, where the persisting idea of motion plainly appears.

Thus, in support of †*recus* and †*procus*, we have nine words brought into line:—

- | | | |
|----------------------|--|--------------------|
| 1. <i>reciprocus</i> | 4. <i>proximus</i> | 7. <i>procax</i> |
| 2. <i>recipero</i> | 5. <i>procus</i> (in the sense of
foremost man) | 8. <i>Proculus</i> |
| 3. <i>recens</i> | 6. <i>proceres</i> | 9. <i>procul</i> |

A group which it seems impossible to disperse or overthrow.

2. *Improbus*.

The most various views have been held about the proper meaning of *improbus*; but no search for a Grundbegriff has ever seemed to me to be successful. The very great variety of words to which it is applied as an epithet makes it impossible to find any common element in them all. The attempt in Harper's Lexicon, for instance, to make it mean "not according to the standard," and so either *below* or *above*, seems to me extremely forced.

But a right conception of the meaning of *probus*, I think, gives the true solution of the difficulty. *Probus* can clearly be seen to be *pro* + *bus*, as *superbus*, and we may compare †*procus* and †*recus*, above referred to. The use of the word in Plautus, *proba merx*, and its probable occurrence on coins as *propom* and *prboum*, indicate that it was a mercantile word, meaning A 1 or first-class, and the like, a most natural meaning of *pro*, analogous to that of *super* in *superbus*.

To see the meaning of *improbus*, properly 'not first class,' we have only to notice the slang applications of *low down*, *ornery*, *second class*, *second rate*, *off color*, *bad lot*, and the like. In other words, *improbus* became, from its mercantile use, a slang word of abuse or disapproval, like *horrid*, *nasty*, *mean*, *awful*, *horrible*, without any definite idea attached to it. Take for instance *Georg.* I. 119, *improbus anser*. Here the tone of the passage is, except for the dignity of the subject, precisely that of the *nasty mice in the cupboard*. Again, in 145, *Labor omnia vicit improbus et duris urgens in rebus egestas*, the feeling is like *confounded* or *horrid*. So *Æn.* XII. 687, *fertur in abruptum mons improbus actu*, referring to *montis saxum*, described just before. There is no more definiteness of idea here than in "an everlastingly cold day."

3. *Rudimentum*.

Donaldson's *Varronianus* gives the true derivation of *rudimentum*, but it has apparently been forgotten, or is not generally known, for the word is usually referred loosely to *rudis*, *rough*, *raw*. But it must come from a (real or supposed) verb *rudio*, which could have no meaning as coming from *rudis*, *rough*, but which from *rudis*, *foil* or *stick*, would mean *fence with the foil*, the implement for sword practice in the gladiatorial school. *Rudimentum* is then *foil-practice*, the practice of the raw recruit, hence the first essays in war. It is to

be noticed that the word is constantly — perhaps oftener than in any other way — used of military service, as in *rudimenta militiae* and the like. An adjective from the same *rudis*, *erudis*, would mean *out of the foil* (past preliminary practice), and *erudio* would be a natural denominative of it, meaning to train to that point of graduation. In this way the whole set of words is connected in a natural scheme of meanings.

4. *Desidero*.

The verb *desidero* ought to be formed from an adjective †*desīdes* (or *-er*), as *degenero* from *degener*. Such an adjective would be compounded from *de* and *sidus*. Another possible route is through the phrase *de sidere*, as with *extemporaneus* from *ex tempore*, *extraordinarius* from *extra ordinem*. *Sidus* from its form ought, like *sedes*, to mean *position, place*, being etymologically equivalent to *ἔδος*. It is very probable that this was its original meaning, but that the astronomical or augural meaning of constellation or *sign* crowded out the proper meaning which was itself retained by *sedes*. This (*sedes*), perhaps an original *i*-stem, was confounded with *sidus*, to some extent, in form, as we see by the nominative *-es*, which belongs to *s*-stems. The adjective †*desider*, or phrase *de sidere*, would mean ‘*out of place*,’ of soldiers missing at the call of the roll. From this, *desidero* would mean, ‘*find or mark out of place*,’ after a battle or military casualty. The word has a special use in military language in precisely this sense, — a use which could hardly come from the more common usage in other senses. Examples are numerous : —

Eo die milites sunt paulo minus septingenti desiderati. CAES. *B. G.* 7, 51.

In eo proelio non amplius ducentos milites desideravit sed centuriones fortes viros circiter triginta amisit. CAES. *B. C.* 3, 99.

One could almost think that in this last passage the original meaning comes to light, *desidero* being used of the soldiers, and *amitto* of the centurions.

On the other hand, the prevailing signification clearly points to some such origin, as it indicates a feeling of *loss* of something, a *missing* something, and only later, and much less commonly, corresponds to our desire in its weakest sense.

Considero may have had a similar origin from an adjective, †*consides* (or *-er*). But the meaning of the adjective is uncertain. It may have been an augural term like the †*contemplus* from which *contemplor* seems like a denominative. But it also may have been a military term like the other, and have meant merely dwelling on a thing, as is the case with *assiduus* (cf. *consido*).

5. *Elementum*.

A great deal of ingenuity has been expended in the effort to find a derivation for *elementum*. It seems to me, however, that the old one from *el em en*, which has been rejected as too simple and natural for science, is really the only one which ought to be thought of.

In the first place, throughout Latin literature, from first to last, the word means *A B C's*, literally. This meaning, in the natural course of word-formation, it is almost impossible to derive from the more abstruse meaning of *means of growth*, or what not, which is often assumed for it; whereas, on the contrary, we have Lucretius' own authority (the first who used it, so far as appears in literature) for the change of meaning from letters to elements. In the first passage in which he uses the word at all, he says (I. 196) :—

Ut potius multis communia corpora rebus
Multa putes esse, ut verbis elementa videmus,
Quam sine principiis ullam rem existere posse.

Here we have only a comparison, and not a use of the word in the abstruse sense at all. In his technical names for the elements he has already used *primordia rerum* (as v. 182), which is unquestionably a translation of *ἀρχαί*. He has, it is true, used *semina, genitalia corpora, materies*, but evidently in a less technical sense, and not strictly as translations of the established terms in Greek. In I. 483, he uses *principia*, evidently another translation of *ἀρχαί*. Again, in v. 822, he says (repeated II. 688) :—

Quin etiam passim nostris in versibus ipsis
Multa elementa vides multis communia verbis,
Cum tamen inter se versus ac verba necessest
Confiteare et re et sonitu distare sonanti,
Tantum elementa queunt permutato ordine solo.

Again (in v. 912):—

. quo pacto verba quoque ipsa
Inter se paulo mutatis sunt elementis,
Cum ligna atque ignes distincta voce notemus.

In II. 981, speaking of his *primordia* or atoms, he says, using the word for the first time in the more remote sense:—

Ipsa quoque ex aliis debent constare elementis.

Meaning not his technical atoms, but component parts of them, as existing under a supposition which he rejects. At last, in III. 244, he uses *elementa* to express his technical atoms, and afterwards indiscriminately with the other words.

It is perhaps worth noticing that Lucretius in his list of names for the component parts of which he is going to treat, the *primordia rerum*, ἀρχαί (of other philosophers, perhaps), says (in I. 58):—

. . . quae nos (either the poet or his school) *materiam* et
genitalia corpora rebus
Reddunda in ratione vocare et *semina rerum*
Appellare suemus et haec eadem usurpare
Corpora prima.

The idea of calling them *elementa*, after the Greek, had apparently not occurred to him until after his conscious figure of the *A B C*'s had accustomed his mind to that conception.

A still more striking indication of the meaning of *elementa* is found as late as B.C. 45, in Cic. *Acad.* I. 7, 26. Cicero says, Ergo illa (the four elements) *initia* et, ut e Graeco vertam, *elementa* dicuntur. Here *initia*, as representing ἀρχαί, is so natural that it does not seem like a translation to Cicero at all; whereas *elementa* distinctly represents not the idea itself, but the Greek στοιχεῖα. It seems to me inconceivable that if Cicero had felt any such meaning in *elementa*, as it must have had by derivation from any verbal root to which it could possibly be referred, he would have treated the word in this manner.

We may compare with this LUCILIUS, XXVIII. (Lachmann, 1876):—

. . . ἀρχαῖς hóminem et stoechiis simul
Privábit. Igni cūm et aqua interdixerit
Duo habét stoechia. . . .

i.e. he will be deprived of two elements, fire and water, but earth (his body) and air (his breath) will still be left to him.

This merely shows that *stoechia* was already in a manner in use in the language in its technical sense ready to be translated as soon as a more patriotic *Sprachgefühl* should suggest that course.

Inasmuch, then, as *elementa* is distinctly a translation of *στοαχεῖα*, it seems almost certain that it had the meaning of *A B C's*, and not any other more abstruse meaning. As to the form, it must, it seems to me, be for *el-em-ena*, a plural like *A B C's*. As the tendency in the language increased to substitute the longer forms in *-mentum* for those in *-men* (as in *momen*, *momentum*), this word also went with the rest, and became *elementa* in the same meaning. The only objection that can be made is the fact that these letters are not the first of the alphabet. But they are the most glib and easy in their utterance; and though we have no example of the same kind in regard to letters, yet, as has been suggested by a friend, we do have *Solfeggio* and *sol-fa-ing*, of precisely the same nature, and chosen for precisely the same reason.

It would seem, then, that we might rest contented with the old-fashioned and simple derivation of *elementum*, without wasting any more lore of Indo-European roots on it.

6. *Praemium*.

A natural derivation of *praemium* has occurred to me which I have not seen suggested.

Among the Romans, booty taken in war was under the control of the commander-in-chief. As an instance, we may take APPIAN, *de Bell. Mithr.* 116:—

Διέδωκεν ὁ Πομπήιος ἀριστείᾳ τῷ στρατῷ καθ' ἕκαστον ἄνδρα χιλίας πεντακοσίας Ἀττικὰς κ.τ.λ.

It could be given to the soldiers in whole or in part, and what was not so disposed of was sold at auction for the benefit of the State. Though the part distributed to the soldiers was regularly divided among them, yet special donations were often made as rewards for good conduct. See PLUTARCH, *Coriolanus*, 10:—

Ἐπειτα πολλῶν χρημάτων καὶ ἵππων γεγονότων αἰχμαλώτων καὶ ἀνθρώπων ἐκέλευσεν [Cominius, the consul] αὐτὸν [Coriolanus] ἐξελεῖσθαι δέκα πάντα πρὸ τοῦ νέμειν τοῖς ἄλλοις.

A similar custom is referred to in PLAUT. *Amphitruo*, 534, when Jupiter (as Amphitryon) says :—

[$\angle \cup$] hanc paterám quae dono mi illi ob virtutém datast,
Ptérela rex qui pótitavit, quem égo mea occidí manu.

Another appropriation is mentioned in CIC. *pro Archia*, X. 25 :—

Quem (Sulla) nos in contione vidimus cum libellum malus poeta in eum fecisset . . . statim ex eis rebus quas tunc vendebat iubere ei praemium tribui.

Such special parts of the spoil would naturally be *prae-emia* (*emo* in its earlier meaning of *take*), *taken out beforehand*; cf. *eximius*.

From such a custom the word might easily have come to mean a prize or reward, generally.

7. *deliciae, delicatus.*

To the above may be added the words *deliciae* and *delicatus*, not included in the original paper. If the ordinary analogies are followed in these words, they both lead us alike to an adjective, *delicus*, *de + licus*, like *re-liquus* : whence, on the one hand, *deliciae*, like *reliquiae*, *angustiae*, *infittiae* (*infittias ire*), *exsequiae*; and on the other, to a denominative †*delico*, whose participle would be *delicatus*. Now, this word *delicus* is actually found in Varro in the sense of a pig weaned by its mother : *Cum porci depulsi sunt a mamma a quibusdam delici appellantur neque iam lactentes dicuntur.* R. R. 4.

There is perhaps no direct evidence that the word was used of lambs or kids, but there seems no reason why it should not have been used of any animal in that situation. That it was the ancient custom to bring up such at home seems hardly to need any proof. We know the ancients had pet lambs and kids. (See ZOEGA, *Bassirelievi*, I, pl. xxv., where a kid appears among other instruments of childish joys; also MONTFAUCON, *Antiquités*, v. 37.) Such animals are petted and pampered, as appears by our own use of *cosset* in the sense of *pamper*. Nothing is more natural than that a verb *delico* should be formed meaning to *pet*, *pamper*, and *cosset*.

Though this verb does not appear, it is reflected in *delicatus*, as in VIRG. *Catalect.* 2, 10 : *meis capella delicata pascuis*; or again, in CATULLUS 17, 15 : *puella tenellulo delicatior haedo*, where again the original association of the word shows through.

This adjective or participle has evidently the meaning of *tender* in the sense in which tenderness comes from pampering and coddling.

The noun *deliciae* is a natural abstract like *reliquiae*, and would mean *pettings*; hence, *habere in deliciis*, *esse in amore et deliciis*: but later also, *in deliciis et delectamentis*.

From this meaning the transition is easy to *pet*, *object of fancy*, *delight*, which is the prevailing meaning of the word. Hence, the word is often used of animals and children, without any bad sense such as might indicate a connection with *lacio*. So also *delicium* is used in the same sense. The development of form and meaning is the same as in *reliquus*, *reliquiae*; *angustus*, *angustiae*.

It is probable that the Romans themselves connected these two words with *lacio*, *allicio*, *pellicio*, *delecto*; but it seems impossible to develop either form or meaning from this group in any natural manner.

8. *provincia*.

The word *provincia*, like many other Latin words which received their stamp before the literary period, has given great trouble to etymologists, from Festus down. It has almost always been referred to *pro-vinco*, but with what connection of ideas? Where the word first occurs in literature it has almost as wide a meaning as the word *province* in English. So marked is this figurative use that many persons have refused to adopt the idea of a military origin for the word at all. It seems to me that the difficulty has been that attention has not been paid to the regular development of the word through the intermediate stages of its formation and growth. If we look merely at the form, it almost inevitably suggests a †*provincus*. In no other way does it seem possible for it to be formed.

There are, it is true, a few examples of supposed primary formations with *-io*, like *eximius* in Latin. But there is no certain instance of a form in *-ia* derived in this manner. The abstracts in *-ia* are separated from these formations, from the earliest Indo-European times, by the accent. They may possibly be really feminines of the *-io* formation; but if so, they received their special functions farther back than the Indo-European language can be traced, and must be quite distinct from such words as *exsequiae*, *indutiae*, *inferiae*, *reli-*

quiae, if we suppose these to be primary, which is by no means certain. In fact, such forms as *reliquiae*, *deliciae*, *angustiae*, *insidiae*, are certainly secondary, as are probably also *excubiae*, *indutiae*, *exsequiae* and *infittiae*. *Inferiae*, the only troublesome word of this class, is too uncertain in its origin to serve as the basis of any argument. The only noun of the abstract class that looks like a primary in *-ia* is *inedia*; but this, on account of its negative, almost necessarily implies an †*inedus* (or *-is*), as *incuria* implies an adjective formed from *in* and *cura*.

It is not essential, however, that there should have been an actual †*provincus*, only that *provincia* should have been formed as if there had been one.

Now, supposing a †*provincus*, either real or imagined by the Romans, what would it mean? As almost all are agreed in regard to the principal word, we can look only to *pro* and *vinco*. The *n*, though irregular, is paralleled by *vinca pervinca*, a persistent weed, *pervenche*, *periwinkle*, and the same influence of the present stem is seen in *coniunx*, *finxi*, *nactus*.

Mommsen, in his discussion of the technical meaning of the word *provincia* (*Rechtsfrage*, etc., p. 4), connects it with *provinco* without assuming or explaining any intermediate †*provincus*. He assigns to the word the etymological meaning of *Kriegs- oder Commandobereich*. But that he had no definite idea of the development of the word appears from his statements in regard to it in his *Römisches Staatsrecht*, vol. I. p. 50, where he makes the *pro* refer to the march apart of the two consuls, a notion which few will be inclined to accept. He also lays stress on the supposed fact that no one consul can have a province, but only when there are two expeditions abroad can there be provinces at all. This can hardly be true, for often a single province is spoken of where the other consul remained at home, as in Liv. IV. 37 and 43; VII. 6 and 38. Both consuls also are occasionally spoken of as present in one province, though, of course, in this case there could not be the usual allotment. We may compare the narrative of the year B.C. 465, Liv. III. 2 : —

Fabio extra ordinem quia is victor pacem Aequis dederat ea provincia data. . . . Quae ubi Romam sunt nuntiata indignitas rei . . . consulem alterum ab urbe excivit.

So also B.C. 464, Liv. III. 4 : —

Sp. Furius consulum alter cui ea provincia evenerat, *etc.*
ut Postumio alteri consulum negotium daretur videret ne quid res-
publica detrimenti caperet, *etc.*

To complete Mommsen's view, we may add his remark in *R. G.* I², p. 247, note : —

Provincia ist bekanntlich in der älteren Sprache nicht was wir Provinz nennen, ein räumlich abgegrenzter einem ständigen Oberbeamten unterstellter Sprengel, sondern lediglich die durch Gesetz, Senatsbeschluss oder Vertrag den einzelnen Beamten festgestellte Competenz.

Here, however, he is only speaking of the distinction between the provinces beyond sea in the later technical sense of the word as opposed to the earlier use of the word before these foreign governments were established. His view in general is like the one here maintained, except in regard to the meaning of *pro* in the compound.

The various other suggestions of the origin of the word, apart from *vinco*, seem forced, and have never received any general approval. They need not therefore be discussed here.

The difficulties all vanish, it seems to me, as soon as a real *†provincus* is assumed, meaning "engaged in advancing conquest." It might be applied to an army, or especially to a consul or general, when engaged, as these officers were every summer in early times, in extending the bounds of the Roman power. How important a function this was, and how large a place it filled in the Roman mind, appears from the constant use of *propagare finis* and the religious idea, which must be very old, that only such *imperatores* as had extended the bounds of the Empire were entitled to enlarge the *pomerium*.

If, now, a consul were out conquering the territory of a neighboring tribe, he would be *†provincus*, and his state or condition would be *provincia*. He would be 'engaged at the front,' he would 'go to the front'; 'the action at the front would be assigned to him' or the like. Later the word would become concrete, as did abstract nouns generally in Latin, and a particular *provincia* or 'sphere of operations at the front' would fall to his lot. The word must have been long in use in this sense, and have continued to have that feeling attached to

it until very late, to make it possible for the figurative use to develop as we meet it in the earliest literature, and at the same time to make it seem natural to call Sicily, for instance, a *province* in the later technical sense. The word *vincia*, cited by Festus, is probably only invented by him to account for *provincia*. If it really ever existed, it would be a similar abstract from †*vincus*, and would mean 'the act or state of conquest,' 'actual operations,' or the like. It might just as well have come to mean what the other did, only it failed to take root in the language, if it ever was there at all.

The strongest confirmation of this view comes from the use of the word by Livy in the distinct sense of 'actual seat of war' or 'definite field of operations,'—a sense entirely distinct from the abstract meaning of 'function or scope of operations or thing to be done.' *E.g.*:—

hic in provincia consulatum inire consilium erat (*i.e.* at Ariminum, then the seat of operations against Hannibal). Liv. XXI. 63.

ut explorarent . . . qua provincia nostra qua hostium foret. Liv. XLIV. 18.

In the latter passage the word has a distinct territorial sense, entirely different from its technical use, and seems to recall an earlier use still remaining in the annalists from whom Livy is copying.

So Samnium Camillo sorte evenit. VIII. 29. Cui Campania sorte provincia evenerat. VII. 38. Consules partiti provincias. Etruria Decio Samnium Fabio evenit. IX. 41.

It is not without significance, too, that the regular way of expressing the provinces in the earlier sense is by the names of nations, which are probably to be taken in the territorial sense in which such names are used so often in Latin. *E.g.* Valerio Potito Volsci provincia evenerat. Liv. V. 12; and so *passim*.

Livy varies between *Samnium* and *Samnites* in this use.

The subsequent development of meaning would be easy and natural. Until the institution of the office of praetor, B.C. 367, the word would perhaps not be required, except in its original military sense. But before that there were often situations which would suggest its extension. Cf. Consules inde partiti provincias. Fabio ut legiones Antium duceret datum, Cornelius ut Romae praesidio esset. Liv. III. 22. 3. Sp. Furius consulum alter cui ea provincia evenerat profectus in Aequos, *etc.* ut Postumio alteri consulum negotium

daretur videret ne quid, etc., with the usual martial law formula. Liv. III. 4 (above cited).

So also when six tribunes with consular power were chosen : Corneliis Faliscum bellum Valerio ac Servilio Capenas sorte evenit (the other two remaining at home). Liv. IV. 24.

From the time of the establishment of an independent judiciary the way would be open to an extension of the meaning to functions not military. From the fondness of the Romans for official words the meaning of *provincia* would naturally extend itself so as to include any sphere of activity or set of functions, while at the same time the word in its official sense would continue to be used and develop the narrower technical sense of a special government beyond sea.

ON *EGREGIUM PUBLICUM* (TAC. Ann. III. 70. 4).

BY CLEMENT LAWRENCE SMITH.

AMONG other incidents of the year 22, Tacitus mentions the attempt made in the Senate by some unnamed *delator* to prosecute one Lucius Ennius on a charge of *maiestas* for 'having converted the emperor's image to the common uses of silver.' Tiberius declined to treat the melting of himself in effigy as a serious insult, and put a stop to the proceedings by his veto. Thereupon Ateius Capito, the eminent jurist, arose, and with great show of independence, — *ea sola species adulandi supererat*, — protested warmly against the emperor's action in taking the decision out of the hands of the Senate, and shielding such wickedness from punishment; it was all very well for the prince to treat the indignity offered to himself with indifference, but he should not be so free with the wrongs done the state. Tiberius saw through this bluster, and persisted in his veto; and Tacitus is moved to comment with some severity on the great lawyer's discreditable exhibition of himself. His words, according to the traditional text, are:—

'Capito insignitior fama fuit quod humani divinique iuris sciens *egregium publicum* et bonas domi artes dehonestavisset.'

The peculiar phrase *egregium publicum* has been rendered in a variety of ways, but all the explanations which have been offered fall into two classes, represented, among recent editors, by Nipperdey and Furneaux, respectively. The former translates the phrase by 'den Ruhm des Staats,' while the latter prefers, though with some hesitation, to explain it as Capito's own 'distinction in the state as a consular and leading senator,' in contrast with his juristic learning, which both editors think is expressed, 'as an accomplishment of private life,' by *bonas domi artes*. All editors agree that Capito's eminence as a lawyer is expressed in one or other of the objects of *dehonestavisset*; and it is, indeed, inconceivable that Tacitus should have spoken of anything as dishonored by his servility, and left that out.

Walther is the only editor, so far as I am aware, who refers *domi artes* to personal character and private life exclusively; and in this I think he is right. No doubt *domi artes* is frequently used in a wider sense, and with more especial reference to a man's professional accomplishments, as in IV. 6. 2: *claritudinem militiae, inlustres domi artes*. But, as Mr. Furneaux himself intimates, the contrast with *militiae* is lacking in our present passage, and there is therefore no necessity for supposing that all the accomplishments of peace, — *civiles artes*, — are summed up in the phrase. My difficulty in finding in it a description of the professional merits of Capito lies in the absurdly inadequate epithet *bonas* to characterize the learning and ability of one of the greatest lawyers of his time, the founder of a school of jurisprudence. Applied to his personal qualities, it is, in the opinion of Tacitus at least, all that he deserves. The use of *artes* to denote qualities of character is fully established by such examples as *sanctissimis Arruntii artibus*, VI. 7. 1; *luxuria industria, comitate adrogantia, malis bonisque artibus mixtus*, Hist. I. 10; *industriæ eius innocentiaque, quasi malis artibus infensi*, ibid. I. 45; *Victorinum, pietate mansuetudine veritate innocentia maxima, omnium denique optimarum artium præcipuum virum* Fronto, de Nepote amisso, Epist. 2.

But if *bonas domi artes* refers to personal character only, can we find in *egregium publicum* the allusion to professional eminence which we all feel must be expressed somewhere in the clause?

Editors usually base their interpretation of these words on the questionable analogy of the familiar phrases, *bonum publicum*, *malum publicum*, and their rare variations, *optimum publicum*, *pessimum publicum* (Gell. VII. 3, Liv. II. 1. 3, Varro, R. R. I. 13. 7). The analogy seems to me questionable because *egregium* has not, like *bonum* and *malum*, acquired the recognized character of a substantive to which an adjective may be attached; and *optimum* and *pessimum*, in the few cases where they are joined with *publicum*, cannot be regarded as independent examples, but have borrowed their substantial character from their positives in the same connection. *Divinum publicum*, quoted by Ruperti from Liv. VIII. 10. 13, is not analogous, because *divinum* is there a special act (religious ceremony), usually expressed by *divina res*, and not an abstraction, as *egregium* is held to be here. Equally irrelevant, for the same reason,

is the citation of *tamquam egregium*, VI. 24. 3, 'as if it were an admirable thing.' Any suitable adjective may be used as a substantive in this sense.

But if the analogy holds good, what meaning does it give to *egregium publicum*? It is agreed on all hands that *publicum* in *bonum publicum*, etc., is an adjective, that *bonum* and *malum* express 'the interest' and 'the disadvantage' of the state respectively, and that *optimum* and *pessimum* express in a higher degree the same thing, — the 'highest interests' and the 'greatest disadvantage' of the state. In like manner *egregium* is held to be a substantive, and it can only mean 'the eminence' or 'the excellence' or, as Nipperdey renders it, 'the glory' of the state. It cannot mean the eminence or excellence of the individual, or even his eminent position in the community, because *publicum* denotes what belongs to the community in contrast with what belongs to the individual. This contrast is always implied, and, on occasion, expressed, as in Ruperti's citation from Livy, quoted above, which is in full: *ni moritur, neque suum neque publicum divinum pure faciet qui sese devoverit*; or Cic. Brut. 329: *Hortensii vox extincta fato suo est, nostra publico*. *Egregium publicum* can be made to mean 'his eminent public position' only by taking *publicum* as the substantive, and importing into it the meaning of 'position in the eyes of the people,' from its use in such phrases as *prodire in publicum*, *abstinere publico*, etc. This is not supported by any example, and no editor has proposed it. All prefer to rest on the analogy of *bonum publicum*, etc., though many draw from this analogy an interpretation which it will not yield. *Egregium publicum* will not supply the reference to Capito's personal eminence, without which the words of the historian are little short of absurd.

In casting about for a solution of this difficulty, it has occurred to me that what Tacitus probably wrote here was

egregium publice locum,

and that from this some copyist, by an easy blunder, due to the similarity of the penultimate syllables of the last two words, produced our present reading.

The use of *publice* here suggested is precisely similar to its use in *pari fama publice*, I. 13. 1, and in the following, which presents

also a similar form of phrase: *nonum se annum iam velut in aciem adversus optumates maximo privatim periculo, nullo publice emolumento stare*, Liv. VI. 39. 6. In meaning, the phrase is almost identical with *principem in civitate locum*, which Tacitus uses with reference to Capito, in speaking of his death a few chapters further on (75. 1). This position he attained, Tacitus tells us, *civilibus studiis*, so that we have in the proposed reading the missing allusion to his professional distinction, and need not impose on *bonas domi artes* a meaning it will not bear.

ON THE USE OF THE PERFECT INFINITIVE IN LATIN WITH THE FORCE OF THE PRESENT.

BY ALBERT A. HOWARD.

THE frequent use of the perfect active infinitive in Latin, in sentences where the force and meaning of the present infinitive seem rather to be called for, has long been a vexed question among grammarians. Briefly stated, the following classes of cases occur : —

In the older language, *viz.* in inscriptions and early writers, the perfect infinitive is often thus found depending on some form of the verb *nolo* or of *uolo* in connection with a negative, e.g. *nolito deuellisse*, *nequis uelit hoc fecisse*, in all of which cases a strong prohibition is contained.

In later writers, and especially in the poets, this use is extended to clauses not prohibitive, but in which the infinitive is dependent in like manner on the verb *nolo* or *uolo*, e.g. *nil uetitum fecisse uolet*.

In poetry, again, the perfect infinitive with the force of the present is joined with the present tense of the verb *possum*, and Servius ad Aen. VI. 79, says of this use, “Attica figura est.”

There are many other instances, chiefly in the works of the elegiac poets, of the perfect infinitive with the force of the present, which, as they are to be considered later on, need only be mentioned in this introduction.

Induced by these occurrences and by the explanation of Servius, some grammarians have compared this use of the perfect infinitive in Latin with that of the aorist infinitive in Greek, and have attempted in this way to explain all the peculiarities of the perfect infinitive ; while others, denying that the notion of the aorist has any existence in Latin, explain these uses in various ways.

Without examining and refuting any of the false ideas which have been brought forward on this subject, it will be sufficient to state that hardly any use of the perfect infinitive has not by some one been explained as an aorist.

Madvig has treated this subject in his *Opuscula Academica*, vol. II. pp. 119-129, denying the existence of an aorist in the Latin language; Wex, in his prolegomena to Tac. Agric. pp. 148-157, recognizes and defends the aorist. Haase and Holtze have also treated the matter, as well as some others whose names are omitted because they have brought forward no new material or have simply expressed opinions without investigating the matter at length.

It is generally admitted that the later use of the perfect infinitive in elegiac poetry had its origin in the old legal formulae with verbs of wishing, *uolo, nolo*, etc.

Let us then first inspect these formulae out of which the later use is said to have been developed.

In the S. C. de Bacchanalibus the following forms occur: —

De bacanalibus quei foederatei esent ita exdeicendum censuere.

I *Nequis* eorum bacanal *habuisse uolet*.

II *Bacas uir nequis adiese uolet* . . . nisei praetorem urbanum adiesent isque de senatuos sententiad, . . . iousiset.

III *Neue* pecuniam quisquam eorum comoinem *habuisse uolet*; *neue* magistratum . . . quiquam *fecise uolet*; *neue* posthac inter sed *coniourase neue conuouisse neue conspondise neue conpromesise uolet, neue* quisquam fidem inter sed *dedise uolet*.

IV *Sacra* in oquoltod *ne* quisquam *fecise uolet*; *neue* in poplicod *neue* in preiuatod *neue* extrad urbem *sacra* quisquam *fecise uolet* nisei praetorem urbanum adieset, isque . . . iousiset.

V *Homines plous V oinuorsei* . . . *sacra ne* quisquam *fecise uolet, neue* . . . *arfuisse uelent*, nisei de praetoris . . . sententiad.

In II, IV, and V, provision is made that if any one thinks it necessary to celebrate the rites, he may do so, provided that before any step *shall have been* taken by the celebrater he approach the praetor and obtain his order to proceed with the rites. Cf. Liv. XXXIX. 18, 8: si quis tale sacrum sollemne et necessarium duceret nec sine religione et piaculo se id dimittere posse, apud praetorem urbanum profiteretur, praetor senatum consuleret. si ei permissum esset cum in senatu centum non minus essent, ita id sacrum faceret, etc.

All these examples seem to have the exact force of the future perfect, and to imply the absolute fulfilment of one act before another begins; therefore an investigation of the uses of the future perfect in Latin will not be out of place at this point.

The older writers often in treating of a future event conceived of it as completed at some future time, and expressed this conception by the future perfect tense.¹ The Latin use of the future perfect was much more exact than our own use of this tense, or even than that of the Greeks,² but for that very reason, in striving to be exact, they often went too far, and transferred this use of the future perfect to sentences where the simple future would have been more correctly used. Draeger, I. pp. 284-5, has collected a large number of examples illustrating this point; cf. Madvig, Opusc. Acad. II. p. 93.

The Latin language is deficient in tenses of completed action for the imperative, and so, if one wished to express a prohibition or command, having in mind the future perfect, *i.e.* the accomplishment of the thing ordered, a circumlocution was necessary. Such circumlocutions may be seen in Cato de Agric. V. 6, *boues maxima diligentia curatos habeto*; Plaut. Poen. 1157, *pactam rem habeto*. Priscian (ed. Hertz), p. 406, says: "apud Graecos etiam praeteriti temporis sunt imperatiua, quamuis ipsa quoque ad futuri temporis sensum pertineant, ut, ἡνεύχθω ἢ πύλη, 'aperta sit porta'; uidemur enim imperare, ut in futuro tempore sit praeteritum, ut si dicam 'aperi nunc portam, ut crastino sit aperta.' ergo nos quoque possumus in passiuus uel in aliis passiuam declinationem habentibus uti praeterito tempore imperatiui, coniungentes participium praeteriti cum uerbo imperatiui praesentis uel futuri temporis, ut 'amatus sit' uel 'esto' πεφιλήσθω, 'doctus sit' uel 'esto' δεδιδάχθω, 'clausus sit' uel 'esto' κεκλείσθω." In this way is to be explained the use of the perfect subjunctive in prohibitions, for there is in this use the force of a future perfect which gradually develops into a future, as Madvig³ has clearly shown.

There are, further, strong indications that the perfect infinitive joined with the verb *uolo* expresses the idea of the future perfect. With verbs which in themselves have a future significance, the present infinitive seems often to have the force of a future. Verbs of wishing, *uolo*, etc., can be shown by many examples to be joined with the present infinitive with future significance, exactly as *spero* is often

¹ Draeger, hist. Syntax I. p. 284. Holtze, Synt. prisc. script. Rom. II. pp. 86-88. Zumpt, Lat. Gram. § 590.

² Goodwin, M. and T. p. 45, remark.

³ Opusc. Acad. II. p. 105; cf. Ed. Loch, Imperativ bei Plautus, p. 21.

thus joined. In the following examples there can be no doubt of the future significance: "is *dare uolt*, is se aliquid *posci*." "res quaedam est, quam *uolo* ego me a te *exorare*." "qui populares se *esse uolunt*." Very often, too, the perfect passive infinitive or the participle alone is joined with a verb of wishing, and here there are many instances pointing clearly to the sense of a future perfect. Cic. Caecil. 6, 21: tamen eos defendes, qui se ab omnibus *desertos* potius quam abs te *defensos esse malunt*, and a little further on, cur te interponis inuitissimis his, quibus maxime lex *consultum esse uolt*? Cic. Rosc. Am. 9, 25: orent ut et illius mortui famam et filii innocentis fortunas *conseruatas uelit*. Cic. Verr. III. 4, 7: ingenium uero et uirtutem *depressam extinctamque cupitis*. Cic. Cael. 3. 8: illud tamen te *esse admonitum uolo*. Plaut. Amph. 33: iustam rem et facilem *esse oratam* a uobis *uolo*.

In general all examples of the perfect *passive* infinitive, with verbs of wishing, admit of this explanation.

Later writers, and especially Livy, transferred this use to the perfect *active* infinitive, —

Liv. XXIV. 16. 11: tum Gracchus 'priusquam omnes iure libertas aequasset,' inquit 'neminem nota strenui aut ignaui militis *notasse uolui*.'

where, if Livy has retained the exact words of Gracchus, this use must be regarded as much older than has been stated above. But a little before (§ 9) he said, omnes *malle laudatos* a se dignos indignosque, quam quemquam eo die *castigatum esse*, and in the same way he might in this case have said, neminem *notatum uolui*, —

Liv. XXXII. 21. 32: quia *pepercisse* uobis *uolunt*, committere uos cur pereatis non patiuntur, *i.e.* quia uos *conseruatos esse uolunt*.

Liv. XLII. 11. 1: plurium annales, et quibus *credidisse malis*, ipsum Eumenem uenisse tradunt, *i.e.* quibus *creditum esse malis*.

Hor. A. P. 347: sunt delicta tamen quibus *ignouisse uelimus*,

which might also be expressed quibus *ignotum uelimus*.

There are many other examples which, although they are not distinctly derived from this use, have the same force of the future perfect, e.g. —

Tib. III. 5. 31: uiuite felices memores et uiuite nostri,
siue erimus seu nos fata *fuisse uelint*,

where the idea of *fata fuisse uelim* may be expressed more simply by the future perfect "seu fuerimus."

Ov. ex P. III. 1. 9: pace tua *dixisse uelim*.

Cf. Cic. pro Mil. 103: pace tua patria *dixerim*, where both *dixisse uelim* and *dixerim* have the force of the future perfect.

The view of this construction taken by Perizonius¹ is well worthy of notice. Sanctius had said that the perfect infinitive was used for the future in these expressions, but Perizonius denied that the idea of futurity was expressed by the infinitive. His words are: "Infinitivus iunctus uerbo *uolo* notat simpliciter ipsam cuiuscunque rei actionem, quae futuri temporis forma non exprimitur. Nam quis unquam dixit aut scripsit *uolo hoc facturum esse*, siue *me*, siue *te*, siue *illum*? si quid futuri in hac inest locutione, id haeret in ipso uerbo *uolo*, quod suam certae actionis uoluntatem extendit a praesenti temporis momento usque in illud, quo ea actio tandem fit, aut desiderata res sibi obuenit: — Deinde sola hac perfecti temporis forma uidetur aliqua certe temporis distinctio plerumque notari. Nam *uolo te emisse* notat, non, *uolo te uelle* et incipere emptionem, sed *te eam mihi factam et absolutam praestare*." This is equivalent to saying that, since there is the force of the future perfect in the phrase *uolo te emisse*, the idea of the future is contained in the verb *uolo*, that of the completed action in the perfect infinitive.

Wex also holds this same opinion of certain examples (p. 154): "perfectum ad iudicium spectat, quod ubi res confecta erit, aut ipse qui rem agit, aut alii, qui de ea re iudicabunt, facient," and as examples he quotes Liv. XLII. 11. 1: plurium annales et quibus *credidisse malis* (see above p. 114), and Sall. Jug. 31. 27: neque ego uos hortor, ut *malitis* ciues uestros perperam quam recte *fecisse*.

Still another indication is the similar use of the perfect subjunctive after verbs of wishing, and notably in the following examples, all from early writers, and all showing clearly the force of the future perfect. Ter. Ad. 519: ita se *defetigarit uelim* ut triduo hoc perpetuo prorsum e lecto nequeat surgere. Plaut. Poen. 1206: *uelim* de me aliquid *dixerit*. Plaut. Poen. 570: Quin etiam *deciderint* femina uobis in talos *uelim*. Plaut. Rud. 662: nimis *uelim* improbissumo homini malas *edentauerint*.

¹ Ad Sanctii Mineruae pag. 112.

To return now to the forms of prohibition in which the perfect infinitive is joined with the verb *uolo*, Ovid, in the only case in which he uses this form, has joined it so closely with the future perfect that there can be no doubt as to his understanding of the construction ;

Ov. Am. I. 4. 38:

oscula praecipue nulla *dedisse uelis*.
oscula *si dederis*, fiam manifestus amator.

for the future perfect in verse 39 is simply the idea of verse 38 in conditional form, and it might have been expressed *si uoles dedisse*. In Plautus there is another similar indication ; Poen. 872 : —

nolito edepol *deuellisse* : iam his duobus mensibus
uolucres alae tibi erunt hirqinae ;

where the future¹ imperative contains the idea of futurity, the perfect infinitive the idea of the completed action ; and in this clause also the words *nolito deuellisse* imply a protasis, *si non deuelleris*, as in the example quoted from Ovid.

The other instances of this use, in all of which the force of the future perfect can be seen, are as follows : —

Cato de Agr. V. 4: *nequid emisse uelit* insciente domino, *nequid* dominum *celauisse uelit* . . . Chaldaëum *nequem consuluisse uelit*.

Varro ap. Non. p. 394: *nequis* lictorem spurcum hominem liberum prehendere *iussisse uelit*.

Gell. XIII. 15. 1: ex uetere forma perpetua . . . *nequis* magistratus minor de caelo *seruasse uelit*.

Ter. Hec. 560: interdico *ne extulisse* extra aedes puerum usquam *uelis*.

C. Gracchus ap. Gell. X. 3. 3: Caleni ubi id audierunt, edixerunt, *nequis* in balneis *lauisse uellet*, cum magistratus Romanus ibi esset.

Hauboldii monum. legal. p. 178: *neue* cretulentum *exegisse uelit* nisi in duabus lacunis prius emet.

Liv. XXXIX. 14. 8 (de senatus consulto): iubent . . . edicta mitti, *nequis* qui Bacchis initiatus esset, *coisse* aut *conuenisse* sacrorum causa *uelit* *neu* quid talis rei diuinae *fecisse*.

Liv. XXXIX. 17. 3: edixerunt deinde, *nequis* quid fugae causa *uendisse* *neue* *emisse uellet*.

¹ Loch, Imperativ bei Plautus, p. 6, n.

Liv. XXXVIII. 11. 9: *nequem eorum Aetoli recepisse uelint.*

Hor. Sat. II. 3. 187: *nequis humasse uelit* Aiacem, Atrida, uetas cur?

From these prohibitions must be separated a few other phrases in which the perfect infinitive is joined with a verb of wishing. There are in Latin, as in Greek, certain verbs, the perfect tense of which, since it expresses the state in which the subject is after the action of the verb has been completed, has the force of the present tense of another verb by which that state is represented.¹ In this way the perfect *perii* is found in writers of all periods with the meaning *mortuus sum*, and *uici* with the meaning *uictor sum*. It is not surprising then to find, even in Cicero, this use transferred to the perfect infinitive; e.g.:—

Verr. II. 149: *nemo eorum est qui non perisse te cupiat.*

Verr. III. 180: *uide, quaere, circumspice, siquis est forte ex ea prouincia, . . . qui te nolit perisse.*

Rosc. Am. 73: *esto: causam proferre non potes: tametsi statim uicisse debeo, tamen de meo iure decedam,*

where, better to express the force of the present in *uicisse*, the temporal adverb *statim* is added, the idea being *statim uictor esse debeo*. Further examples are:—

Liv. XL. 10. 5: *Non Romanos, habeo ad quos confugiam: perisse expetunt, quia tuis iniuriis doleo.*

Enn. ap. Cic. de Off. II. 23: *quem quisque odit, periisse expetit.*

Lucil. (ed. Müll.) V. 11: *ut periisse uelis quem uisere uolueris cum debueris.*

Ov. Am. II. 2. 10: . . . *quem metuit quisque, perisse cupit.*

Ov. Am. II. 19. 56: *nil facies cur te iure perisse uelim?*

Ov. Met. XIV. 570: *nec sceptrum soceri, nec te, Lauinia uirgo, sed uicisse petunt.*

It will be sufficient to quote, without discussion, the examples in which Wex, the strongest partisan of the aorist theory, and others have admitted a legitimate use of the perfect. In the following examples, all of which have been explained at one time or another as illustrating the use of the perfect as an aorist, it is easy to see that the

¹ Wex, prol. ad Tac. Agr. pp. 149, 150.

perfect represents the condition or state after the action of the verb has been completed, and they are so explained by Wex, —

Lucr. III. 69: unde homines dum se falso terrore coacti
effugisse uolunt longe longeque *remosse*.

Ov. Rem. Am. 735: Argolides *cuperent fugisse* Capharea puppes.

Tac. Dial. or. 24: tuum tamen, Messala, promissum *immutasse* non debes; *i.e.* immutata mente stare debes.

Corn. Nep., Eum. 9: quod diebus quinque hostis *transisse* potest.

Liv. XXXVII. 19. 5: instauremus nouum de integro bellum, quod possumus . . . ante hiemem, diis uolentibus *perfecisse*.

There are some instances, especially in poetry, where with verbs of wishing the perfect infinitive has its proper significance of an action in past time with respect to the time of the leading verb; as, —

Tib. I. 6. 73: non ego te pulsare uelim, sed, uenerit iste
si furor, *optarim* non *habuisse* manus.

Ov. Met. VII. 712: Procrin habe! dixit. quodsi mea prouida mens est,
non *habuisse* uoles.

Ov. Met. X. 220: at si forte roges fecundam Amathunta metallis
an *genuisse uelit* Propoetidas, *etc.*

Mart. X. 48. 21: accedent sine felle ioci nec mane timenda
libertas et nil quod *tacuisse uelis*.

Liv. XXII. 59. 10: haud equidem ullius cuius et commilitonis fortunae aut conditioni inuideo, nec premendo alium me *extulisse uelim*; ne illi quidem, nisi pernecitatis pedum et cursus aliquod praemium est, . . . se nobis merito praetulerint gloriatique sint in se plus quam in nobismet praesidii rei publicae esse.

With these words M. Junius chides his fellow soldiers who had fled after the battle of Cannae, and, comparing his own course with theirs, he says ironically: "I shouldn't like to have exalted myself by crushing another (*i.e.* at the expense of a fellow soldier), as they have done, for they have claimed superiority over us, and have boasted that the safety of the state was dependent more on them than on us."

By far the largest number of examples however have the future perfect significance; but as the line of demarcation between the

future and the future perfect was so loosely drawn, the distinction between future and future perfect (*i.e.* present and perfect infinitive) in this use is very slight indeed. Compare what has been said above (p. 113) about the future perfect.

The following examples, drawn mostly from the poets, seem to have retained the force of the future perfect:—

Liv. XXX. 14. 6: hanc te quoque ad ceteras tuas eximias uirtutes, Masinissa, *adiēcisse uelim*.

Hor. Ep. II. 2. 109: at qui legitimum *cupiet fecisse* poema,
cum tabulis animum censoris sumet honesti.

Tib. I. 6. 63: proprios ego tecum,
sit modo fas, annos *contribuisse uelim*.

Tib. IV. 6. 6: est tamen, occulte cui *placuisse uelit*.

Prop. I. 7. 15: te quoque si certo puer hic concusserit arcu
quo *nolim* nostros te *uiolasse* deos.

Ov. Ar. Am. II. 609: condita si non sunt Veneris mysteria cistis, . . .
attamen inter nos medio uersantur in usu,
sed sic, inter nos ut *latuisse uelint*.

Ov. Met. VII. 59: quemque ego cum rebus, quas totus possidet orbis,
* Aesonidem *mutasse uelim*.

Ov. Fas. VI. 71: remque mei iuris *malim tenuisse* precando.

Juv. XIV. 185: nil uetitum *fecisse uolet*.

Pers. I. 41: . . . an erit, qui *uelle* recuset
os populi *meruisse*?

Pers. I. 91: plorabit, qui me *uolet incuruasse* querela.

Mart. VI. 29. 8: quidquid amas, *cupias* non *placuisse* nimis.

Mart. IX. 81. 3: non nimium curo; nam cenae fercula nostrae
malim conuiuiis quam *placuisse* cocis.

In these last examples it is hard to distinguish whether the force is more nearly that of the future or of the future perfect. In the following cases the force of the future perfect has entirely given way to that of the future.

Ov. Am. II. 16. 13: non ego, si medio Polluce et Castore ponar,
in caeli sine te parte *fuisse uelim*.

Ov. Am. II. 17. 29: noui aliquam, quae se circumferat esse Corinnam.
ut fiat, quid non illa *dedisse uelit*?

* The metric admits *mutare* instead of *mutasse*.

Ov. Am. II. 4. 25: haec quia dulce canit, flectitque facillima uocem,
oscula cantanti rapta *dedisse uelim*.

Hor. Sat. I. 2. 28: sunt qui *nolint tetigisse*.

This easy transition of meaning from future perfect to future may have influenced the poets, and especially the elegiac poets, to use the perfect infinitive in order to avoid metrical difficulties. The perfect infinitive once accepted in this use with verbs of wishing and with others in which there was a future significance, the transition to a similar use of the perfect for the present, with verbs in which there was no future significance, would be a very easy one, and the desire to avoid certain metrical difficulties would be a very strong one. Out of 120 cases in Ovid in which the perfect infinitive is used where the present was to be expected, 86 occur in pentameter, and in Catullus, Tibullus, Propertius, and Martial, the percentage is still greater. In all of these cases the infinitive immediately precedes the iambic word with which the verse ends. As the artificial character of the pentameter admitted no substitutions in the last half of the verse, and required an iambic word at the end, there was developed a strong tendency in Latin to make the last half of the verse consist of two words, one pentasyllabic and the other disyllabic; e.g. *luxuriantur opes, implicuisse uelit*, etc. The following table shows in column I. the number of pentameter verses, in column II. the number of these verses in which the pentasyllabic word, including words joined to the enclitics *-que* and *-ue*, occurs, and in column III. the number of these verses in which the pentasyllabic word is a perfect infinitive:—

	I.	II.	III.
Catullus	318	15	4
Tibullus	854	104	44
Propertius	2048	58	16
Ovid, Amores	1230	122	33
Heroides	1868	192	44
Med. fac., Ars Am., and Rem. Am.	1622	167	33
Trist., ex Pont., Ibis, and Fasti .	6154	805	111
Martial, excl. Xenia and Apophoreta .	2938	288	16
Xenia and Apophoreta	359	17	1

Of these infinitives, the following are noteworthy : —

A.

abstinuisse	delituisse	erubuisse	perdomuisse
admonuisse	demeruisse	execuisse	permaduisse
adplicuisse	desiluisse	explicuisse	pertimuisse
commeruisse	detinuisse	incaluisse	praesecuisse
condoluisse	dimicuisse	increpuisse	secubuisse
dedoluisse	displicuisse	intonuisse	subsecuisse
defricuisse	emeruisse	obticuisse	sustinuisse

* adsedissee

* metuisse	prostituuisse	* tribuisse	substituuisse
	restituuisse		

The present infinitive of these verbs contains either a cretic or a proceleusmatic, and so cannot be used either in hexameter or pentameter.

B.

conseruisse	deseruisse	excoluisse	inseruisse
consuluisse	eripuuisse	exeruisse	proripuuisse

aduxisse	coluisse	excussisse	legisse
cecinnisse	effugisse	fecisse	peperisse
collegisse	excepisse	fugisse	texisse

The present infinitive of these verbs contains a tribrach, and can only be used in elegiac poetry when the last syllable is elided.

C.

composuisse	euoluisse	obposuisse	proposuisse
concubuisse	edidicisse	occubuisse	subposuisse
disposuisse	inposuisse	procubuisse	succubuisse

The present infinitive of these verbs, on account of the spondee which it contains, cannot stand in the last half of a pentameter, but this is the place in which all the perfect infinitives are found.

On account of metrical difficulties the perfect infinitive is found with verbs of wishing as follows : —

Cat. 69. 1 : noli admirari, quare tibi femina nulla,
[C] Rufe, *velit* tenerum *subposuisse* femur.

- Tib. I. 4. 55: rapta dabit primo, mox offeret ipse roganti,
 [A] post etiam collo se *implicuisse* uolet.
- Ov. Am. II. 4. 22: est etiam, quae me uatem et mea carmina culpet;
 [A] culpantis *cupiam* *sustinuisse* femur.
- Ov. Am. III. 2. 29: talìa Milanion Atalantes crura fugacis
 [A] *optauit* manibus *sustinuisse* suis.
- Ov. Her. III. 110 [B]: . . . fallentem *deseruisse* uelis.
- Ov. Ar. Am. I. 293: illum Gnossiadesque Cydoneaeque iuuencae
 [A] *optarunt* tergo *sustinuisse* suo.
- Mart. IV. 31. 3: ne ualeam, si non res est gratissima nobis
 [B] et *uolo* te chartis *inseruisse* meis.
- Mart. IX. 39. 1: prima Palatino lux est haec orta Tonanti,
 [B] *optasset* Cybele qua *peperisse* Iouem.

To these verbs may be added a number of others in which the idea of wishing is contained, *viz.* those called by Draeger, II. 306, "Verba der Willensrichtung," and by Merguet (de usu syntactico infinitiui maxime poetico, p. 18), "uerba uoluntatis." On account of the idea of wishing which they contain, they are frequently joined with the infinitive, and since verbs of wishing contain also the idea of futurity, the present infinitive in this construction has often the force of the future, the perfect infinitive the force of the future perfect. The examples are all found in the poets, and in many cases the perfect seems to have been used to avoid metrical difficulties.

These verbs are, —

probo.

- Ov. Ar. Am. III. 215: nec coram mixtas ceruae *sumpsisse* medullas,
 [A] nec coram dentes *defricuisse* *probem*.

Here *sumpsisse* is not used for metrical reasons, but is possibly to be explained as influenced by *defricuisse*.

amo.

- Hor. Sat. I. 10. 60: *amet scripsisse* ducentos
 ante cibum uersus.

audeo.

- Ov. Tr. I. 5. 4. [A]: *ausus es* adloquio *sustinuisse* tuo.

the auxiliary verb that completed state of action which has already been expressed by the perfect participle, he says that a similar feeling led to the use of *oportuit*, etc. with the perfect infinitive, e.g. Ter. And. 239: *nonne oportuit praescisse* me ante, instead of *praescire*; and so also with the perfect passive participle, which often takes the place of the passive infinitive; as, Ter. And. 239: *nonne prius communicatum oportuit*; Haut. 536: *haec facta ab illo oportebat*.

This construction is common in poetry, where it is often due to a desire to avoid metrical difficulties.

- Verg. Aen. X. 94 [A]: *tum decuit metuisse* tuis,
 Tib. III. 6. 63 [A]: *debueram . . . implicuisse*,
 Ov. Her. II. 28 [A]: *potui demeruisse*
 Ov. Her. XI. 109: *si potuit meruisse* necem meruisse putetur;
 Ov. Her. XII. 4: [C] *debuerant . . . evoluisse*
 Ov. Her. XII. 164 [A]: *non potui . . . perdomuisse*
 Ov. Rem. Am. 112 [A]: *debuerat praesequuisse*
 Ov. Rem. Am. 574 [A]: *debueras . . . substituisse*
 Ov. Rem. Am. 763 [B]: *carmina quis potuit tuto legisse* Tibulli
 Ov. Trist. III. 13. 4 [C]: *debueras . . . imposuisse*
 Ov. Trist. V. 3. 16 [A]: *debueras . . . sustinuisse*
 Ov. Ib. 348 [A]: *qua potuit . . . erubuisse*
 Ov. Fas. I. 354 [A]: *debueras . . . abstinuisse*
 Ov. Fas. III. 480 [A]: *potui dedoluisse*
 Mart. 15. 6: *Herculeas potuit* qui *decuisse* manus
 Mart. VII. 21. 4: *debuit* hoc saltem non *licuisse* tibi
 Mart. IX. 28. 2: *ille* ego sum . . .
 [B] *qui spectatorem potui fecisse* Catonem,
solvere qui *Curios Fabriciosque* graues.

With the *present* tense of *possum* the perfect infinitive is found once in Plautus where the present infinitive was to be expected, —

Aul. 828: *non potes probasse* nugas.

With the exception of a single possible example in Livy, I have not found this construction in any classical prose writer, where it cannot

be explained by assuming that the perfect denotes a state or condition which can be expressed by the present tense of another verb, as has been explained on page 117.

The passage in Plautus clearly contains the force of a future perfect. Strobilus, through fear of not obtaining his freedom, represents that he has been jesting in saying that he has found the treasure-box, and Lyconides replies, "non *potes probasse* nugas," "you will never make me believe it was a joke."

Verg. Aen. VI. 79: *bacchatur uates magnum si pectore possit*
[B] *excussisse* deum.

Cf. Servius: "excussisse uero deum pro 'excutere,' tempus est pro tempore. est autem Attica figura, qua nos uti non conuenit, quia hac licenter utuntur poetae." This is the only instance of the construction in Vergil, and as the metre will not allow *excutere* unless the last syllable is elided, it is very probable that the poet treated the verb *possum* as referring to the future, like the *uerba uoluntatis*, and used the perfect infinitive, regarding the construction as a future perfect.

The other instances of this use show, almost without exception, the use of *possum* with reference to the future as in the two examples just quoted, and the perfect infinitives are used for metrical reasons.

Ov. Am. III. 2. 63: *potes*, si forte iuuabit,
[B] *cancellis primos inseruisse* pedes.

Ov. Ar. Am. II. 583 [B]: non uultus *texisse* suos, non denique *possunt*
[C] *partibus obscenis obposuisse* manus.

Ov. Ar. Am. III. 333 [B]: et teneri *possis* carmen *legisse* Properti.

Ov. Met. II. 564: mea poena uolucres
[A] *admonuisse potest*, ne uoce pericula quaerant.

Ov. Met. V. 225 [A]: et *possum* *tribuisse* et magnum est munus inerti.

Ov. Tr. IV. 2. 2 [C]: uicta *potes* flexo *succubuisse* genu.

Ov. Tr. V. 3. 32 [A]: admonitu matris *condoluisse potes*
et *potes* . . . dicere.

Ov. ex P. III. 4. 30 [A]: ingenium quoduis *incaluisse potest*.

Ov. ex P. III. 4. 59: dum uenit huc rumor, properataque carmina fiunt,
factaque sunt ad uos, annus *abisse potest*.

Ov. ex P. III. 6. 36 [A]: nulla *potest* iterum *restituissse* dies.

Ov. Fas. II. 321: tunicarum uincla relaxat,

[B] ut *posset* uastas *exeruisse* manus.

Mart. XIV. 91: grandia taurorum portant qui corpora, quaeris,

[A] an Libycas *possint sustinuisse* trabes?

Mart. II. 34. 3: praestatur cano tanta indulgentia cunno,
quem nec casta *potest* iam *decuisse* Venus.

The passage of Livy mentioned above is (II. 24. 5) :—

Tum consul misso senatu in contionem prodit. ibi curae esse patribus ostendit, ut consulatur plebi, ceterum deliberationi de maxima quidem illa, sed tamen parte ciuitatis metum pro uniuersa re publica interuenisse. nec *posse*, cum hostes prope ad portas essent, bello *praeuertisse* quicquam, nec, si sit laxamenti aliquid, aut plebi honestum esse . . . arma pro patria non cepisse, neque patribus satis decorum . . . consuluisse.

Weissenborn says, in his notes on this passage, that, even if *praeuertisse* be explained as an aorist, the construction is unusual, for the the other infinitives, *interuenisse*, *decorum esse*, *honestum esse*, have their subjects, *metum*, *non cepisse*, *consuluisse*, expressed, while *praeuertisse* is left without any subject. Madvig (Opusc. Acad. II. p. 127) says that *quicquam* cannot be the subject, because *res praeuertit rei* is an impossible Latin construction. Hertz writes *praeuerti*, and thinks *praeuertisse* a clerical error of the copyist, to be explained from the position of the word, — *interuenisse* and *posse* preceding, *cepisse* and *consuluisse* following it, — from which circumstance such a corruption of the text might easily have arisen. Madvig¹ later accepted the reading *praeuerti*, and also the explanation of the manuscript error suggested by Hertz.

The following examples are quoted by Wex, p. 156, in support of the aorist theory. But they cannot be said to show any use of the perfect akin to the Greek use of the aorist : —

Liv. III. 41. 3: 'non *erit melius*' inquit 'nisi de quo consulimus, uocem *misisse*.

Liv. III. 48. 3: proinde *quiesce erit melius*.

¹ Emendationes Liv., ed. alt. p. 72.

Liv. XLIV. 22. 8: in omnibus circulis . . . sunt qui . . . sciant . . . quando cum hoste manus conserendae, quando *quiesse sit melius*.

Liv. XLIV. 36. 13: non operaest stanti nunc in acie docere quibus de causis hodie *quiesse melius sit*.

Ter. Ad. 180: ante aedes non *fecisse erit melius* hic conuicium.

In writers of republican times, the phrase *esse melius* is always joined with the infinitive, but a passage in Ulpian, dig. 42. 1. 15, *melius erit* si se non interponant, furnishes the clew to all these infinitives; they have simply the force of conditional clauses (protases), and with *melius erit* the perfect infinitive has the force of a future perfect; with *melius fuit* that of the pluperfect subjunctive, as is clear from the following examples where *dedisse*, *tetigisse*, and *perisse* represent conditions contrary to a fact: —

Ov. Her. XVI. 169: quae iuuat, ut nunc est, eadem mihi gloria damno est, et *melius* famae uerba *dedisse fuit*.

Ov. ex P. III. 7. 25: curando fieri quaedam maiora uidemus uulnera, quae *melius* non *tetigisse fuit*.

Cic. Att. XIV. 10. 2: *melius fuit perisse* illo interfecto, quod utinam accidisset!

In regard to the perfect infinitive with the expressions *satis est*, *satis habeo*, *contentus sum*, etc., there is a general agreement among grammarians that the perfect is always used in its proper sense, denoting an action already completed.¹

The perfect infinitive with its regular force is, in classical prose writers of every age, made to depend on the verb *iuuo*, and takes the place of a causal clause.

Liv. XXXI. 1: me quoque *iuuat*, uelut ipse in parte laboris ac periculi fuerim, ad finem belli Punici *peruenisse*.

Liv. Praef. 3: utcumque erit, *iuuabit* tamen rerum gestarum memoriae principis terrarum populi pro uirili parte et ipsum *consuluisse*.

The poets at first seem to have used the perfect infinitive with *iuuo* in its proper sense, but in course of time they came to use present

¹ Zumpt, Lat. Gram. § 590. Madvig, Opusc. Acad. II. p. 119. Draeger, hist. Syntax I. § 128. Wex, prol. p. 153.

and perfect without any distinction, being often induced to do so by metrical difficulties.

The following examples show a logical use of the perfect : —

Verg. Georg. III. 525 : quid labor aut benefacta *iuuat*? quid uomere terras
inuertisse graues?

Verg. Aen. III. 282 : *iuuat enasisse* tot urbes
Argolicas mediosque fugam *tenuisse* per hostes.

Tib. Sulp. VII. 9 : sed *peccasse iuuat*.

Hor. Od. I. 1. 4 : *collegisse iuuat*.

Prop. IV. 4. 19 : me *iuuat* in prima *coluisse* Heliconae iuuenta
musarumque choris *implicuisse* manus.

Ov. Am. III. 6. 9 : quid *properasse iuuat*, quid parca *dedisse* quieti
tempora, quid nocti *conseruisse* diem?

Ov. Fas. III. 696 : et *iuuat* hanc magno uerba dedisse deo.

Mart. XII. 84. 1 : uolueram, Polytime, tuos uiolare capillos,
sed *iuuat* hoc precibus me *tribuisse* tuis.

The following examples have future perfect force : —

Verg. Aen. II. 586 : *animumque explesse iuuabit*
ultricis flammae et cineres *satiasse* meorum.

Verg. Aen. III. 606 : si pereo, hominum manibus *perisse iuuabit*.

Ov. Ar. Am. I. 428 : littera poscetur . . . ne *didicisse iuuet*.

Ov. Fas. V. 689 : da modo lucra mihi, da facto gaudia lucro,
et face, ut emptori uerba *dedisse iuuet*.

In the following examples the perfect infinitive seems to have been used solely for metrical convenience, since it is in each case closely associated with a present infinitive in the same construction : —

Tib. I. 1. 45 : quam *iuuat* immites uentos *audire* cubantem
[A] et dominam tenero *detinuisse* sinu
aut . . . *sequi*.

Tib. I. 1. 73 : nunc leuis est tractanda Venus, dum *frangere* postes
[B] non pudet et rixas *conseruisse iuuat*.

Ov. Her. IV. 87 : quid *iuuat* incinctae studia *exercere* Dianae
[B] et Veneri numeros *eripuisse* suos?

Mart. VII. 93. 3: quid tam saepe meum nobis *abducere* Quintum
 [A] te iuuat et lenta *detinuisse* mora?

In the following examples the perfect infinitive is used for the present, perhaps from analogy with the preceding examples:—

Ov. Am. I. 13. 5: nunc *iuuat* in teneris dominae *iacuisse* lacertis.

Ov. Ar. Am. I. 405: siue dies suberit natalis, siue Kalendae,
 quas Venerem Marti *continuasse iuuat*.

In this same way the perfect infinitive with its proper force, denoting the cause, is joined in poetry with the verb *gaudeo*. There are no instances of this use in prose before the time of Seneca (cf. Draeger, II. p. 346). The examples in poetry are as follows:—

Hor. Od. I. 34. 16: hic *posuisse gaudet*

Hor. Od. III. 18. 15: *gaudet* . . . *pepulis*

Juv. Sat. VIII. 226: *gaudens* . . . *meruisse*

Juv. Sat. XIV. 270: qui *gaudes* . . . *aduexisse*

Pudere, pudor esse, rubor esse. Prose writers of all periods used with these expressions the perfect infinitive to denote the cause of the *pudor*, always using the perfect in its proper sense,¹ so that no one would ever have dreamed of an aorist use, unless he had examined the poetical constructions.

The poets always use the present and perfect *pudet* and *puduit* with the perfect infinitive in its proper sense of completed action.

Plaut. Pseud. 282: *non dedisse* istunc *pudet*: me, quia non accepi, piget.

Plaut. Most. 1165: si hoc *pudet fecisse* sumptum, supplicii iam habeo satis.

Tib. I. 9. 29: haec ego dicebam; nunc me *fleuisse* loquentem,
 nunc *pudet* ad teneros *procubuisse* pedes.

Prop. III. 7. 22: uiderit haec, siquam iam *peperisse pudet*.

Prop. IV. 12. 20: . . . *pudor est non licuisse* mori.

Ov. Am. III. 11. 1. fg.: multa diuque tuli . . .
 et quae non puduit ferre, *tulisse pudet*.

¹ Madvig, Opusc. Acad. II. p. 119.

Ov. Her. IX. 59: non *puduit* fortis auro cohibere lacertos,
 et solidis gemmas *obposuisse* toris.

Here *cohibere* is used of an action still continuing; *obposuisse* of one already completed (cf. vs. 57).

Ov. Fas. I. 205: nec *pudor* in stipula placidam *cepsisse* quietem
 et foenum capiti *subposuisse* fuit.

Ov. Fas. III. 282: et cum ciue *pudet* *conseruisse* manus.

Ov. Fas. IV. 367: 'non *pudet* herbosum' dixi 'posuisse moretum
 in dominae mensis.'

Ov. Fas. VI. 526: . . . et furiis in scelus *isse pudet*.

Ov. Ar. Am. III. 165: femina procedit densissima crinibus emptis . . .
 nec rubor est emisse palam.

Ov. Ar. Am. III. 768: *ulteriora pudet docuisse*.

Inasmuch as the poet proceeds to tell the *ulteriora*, the phrase seems to have an apologetic force like *pace dua dixisse uelim*.

With the forms of these expressions which have a future significance, the poets join the perfect infinitive with a conditional force, as is clear from Plaut. Trin. 347: —

 . . . bene si amico feceris,
ne pigeat fecisse: ut potius *pudeat, si non feceris*

The present infinitive in this construction would represent the future, the perfect infinitive the future perfect. Here, too, it was often found convenient, for metrical reasons, to use the perfect for the present, the excuse for which would be the slight distinction between future and future perfect, or, since the clauses are all prohibitions, an excuse might be found in the analogous construction with verbs of wishing in prohibitions.

Tib. I. 1. 29: *nec* tamen interdum *pudeat tenuisse* bidentes
 [A] aut stimulo tardos *increpuisse* boues.

Ov. Am. III. 14. 21: illic *nec* tunicam tibi *sit posuisse pudori*,
 [A] nec femori inpositum *sustinuisse* femur.

Ov. Ar. Am. II. 252 [A]: *nec* tibi *sit* seruos *demeruisse pudor*.

Ov. Tr. I. 1. 50 [A]: *nec* tibi *sit* lecto *displicuisse pudor*.

In the following two examples the perfect infinitive seems to have been used simply to avoid metrical difficulties, for in both cases it is closely joined with a present infinitive : —

Tib. I. 2. 93: *stare nec ante fores puduit caraeue puellae*
 [A] ancillam medio *detinuisse* foro.

Ov. Her. XV. 350 [A]: quaque *timere* libet, *pertinuisse pudet*.

What has been said about *pudere* is true also of *pigere*, but with the future forms of this verb the perfect infinitive is found even in prose. The example just quoted from Plautus, *si . . . feceris: ne pigeat fecisse*, shows that the infinitive has the force of a future perfect. Tac. Ann. I. 73: *haud pigebit referre* shows the present infinitive with the force of a future condition.

Quint. III. 1. 22: *non tamen post tot ac tantos auctores pigebit meam quibusdam locis posuisse sententiam*.

Verg. Aen. VII. 233: *nec Troiam Ausonios gremio excepsisse pigebit*.

Tib. I. 6. 51: *parcite, quam custodit Amor, uiolare puellam,*
 ne pigeat magno post didicisse malo.

Tib. IV. 4. 3: *crede mihi, propera: nec te iam, Phoebe, pigebit*
 formosae medicas adplicuisse manus.

Ov. Med. fac. 47: *tempus erit, quo uos speculum uidisse pigebit*.

Ov. ex P. II. 6. 14: *nec pigeat mento subposuisse manum*.

Ov. Her. XII. 210: *et piget infido consuluisse uiro*.

In the poets of imperial times and once in a prose writer the perfect infinitive is joined with the verb *decere*, but in all these cases it can readily be shown that the perfect is used in its proper sense.

Plin. Ep. VI. 29. 11: *in posterum opto ut ea potissimum iubear, quae me deceat uel sponte fecisse*. (I desire to be bidden to do that which I ought to have done of my own accord.)

Ov. Am. III. 7. 81: *nec mora, desiluit tunica uelata soluta:*
 et decuit nudos proripuisse pedes.

Vs. 81 contains the idea *proripuit pedes*; cf. the following example: —

Ov. Met. IV. 329: *Nais ab his tacuit, pueri rubor ora notauit:*
 nescit enim quid amor; sed et erubuisse decebat.

Juv. Sat. XI. 201: spectent iuvenes, quos clamor et audax
 sponsio, quos cultae *deceat adsedisse* puellae.

This example may be explained in the same way as the two preceding ones, but here there is further to be observed that the present infinitive for metrical reasons cannot be used in hexameter verse.

Ov. Ar. Am. III. 431: *ire solutis*
 crinibus et fletus *non tenuisse deceat*.

Ov. Ar. Am. III. 145: huic *deceat* inflatos laxe *iacuisse* capillos.

The expression *ire solutis crinibus*, when compared with the expression *laxe iacuisse capillos*, illustrates very forcibly what was said above about the condition or state represented in one case by the perfect and in another by the present tense; cf. p. 117.

Tib. I. 2. 27: quisquis amore tenetur, eat tutusque sacerque
 qualibet: insidias *non timuisse deceat*.

Vs. 24 fg. show that there has been fear felt, and so our verse shows the perfect in its proper sense (it is not becoming to have feared).

Ov. Am. II. 17. 23: tu quoque me, mea lux, in quaslibet accipe leges:
 te *deceat* medio iura *dedisse* toro.

A long and careful search for other instances of the so called aorist infinitive in prose writers, has led to the discovery of but a single example, and even this admits of a better explanation. Cic. de div. II. 73: tum igitur esset auspiciū, si modo esset ei (aui) liberum, se *ostendisse*. Madvig (Opusc. Acad. II. 122) says the words *se ostendisse* are not to be joined with the phrase *si ei liberum esset*, but rather with the words *auspiciū esset*, and both Baiter and Müller have accepted this view. By this explanation all difficulty is removed, and the perfect *ostendisse* has its proper force.

The classes of cases so far treated are those in which the freer use of the perfect infinitive can be seen to be an extension of its legitimate normal use, to express completed action. There are, however, in poetry uses of the perfect infinitive which cannot be accounted for by any of the explanations offered above. In many of these cases the infinitive seems to have lost all sense of time, and seems

simply to express the fundamental idea of the verb, so that it may easily be regarded as an aorist.

This use occurs most frequently in Horace and in such poets as imitated him, or themselves drew from Greek sources. Not infrequently, too, the use is found in connection with constructions which are foreign to the Latin language and which are ordinarily recognized as formed on Greek models. In many of these cases the metre will not admit the present infinitive of the verb, the perfect of which is thus used, and especially in Ovid and the elegiac poets the ease with which the perfect infinitive fitted into the pentameter furnished a temptation to use it too strong to be resisted.

A reasonable explanation of this phenomenon is, therefore, that it is a still farther extension of the use of the perfect infinitive, for metrical convenience, beyond what was legitimate, and this principle, once established, developed a laxer use of the perfect infinitive, which was not however a conscious imitation of the Greek aorist, but rather a matter of convenience, and which found its justification in the analogous construction of verbs, the present of which could not be used in elegiac verse.

The fact that the present and perfect infinitive are found side by side in this construction with no difference of meaning whatever, and even in indirect discourse, goes far to prove that we have to do, not with an *aorist*, but with a perfect used for a *present* tense.

In the following examples, roughly classified, all verses are designated which contain the perfect infinitive of a verb, the present infinitive of which offers metrical difficulties: —

I. Constructions formed on Greek models.

Hor. car. saec. 25 [B]: uosque *ueraces cecinisse* Parcae.

Pers. VI. 3: mire *opifex* . . . *intendisse*.

Pers. VI. 6: *egregius lusisse* senes.

Pers. VI. 76: ne sit *praestantior* alter
Cappadocas rigida pingues *pauisse* catasta.

Pers. IV. 7 [B]: *fert animus* calidae *fecisse* silentia turbae
maiestate manus.

Mart. VI. 52. 3: uix tangente uagos ferro *resicare* capillos
[B] *doctus* et hirsutas *excoluisse* genas.

Mart. IX. 101. 19: saepe recusatos *parcus duxisse* triumphos
 uictor Hyperboreo nomen ab orbe tulit.

II. The infinitive depends on a verb.

Pers. I. 131: nec qui abaco numeros et secto in puluere metas
 scit *risisse* uafēr, multum gaudere paratus,
 si cynico barbā petulans nonaria uellat.

The metre allows *ridere* without any other change.

Ov. Ar. Am. III. 319: nec plectrum dextra, citharam *tenuisse* sinistra
 nesciat arbitrio femina docta meo.

Ov. Ar. Am. III. 455: *discite* ab alterius uestris *timuisse* querellis.

Pers. V. 33: *permisit sparsisse* oculos iam candidus umbo.

Pers. II. 66: haec baccam conchae *rasisse*, et stringere uenas
 feruentis massae crudo de puluere *iussit*.

Ov. Tr. IV. 8. 51: at uos *admoniti* nostris quoque casibus *este*,
 [A] aequantem superos *emeruisse* uirum.

Ov. Tr. III. 1. 79: interea, quoniam statio mihi publica clausa est
 [A] priuato *liceat delituisse* loco.

Ov. Fas. IV. 131: uere *monet* curuas materna per aequora puppes
 ire, nec hibernas iam *timuisse* minas.

Mart. II. 1. 9: te conuiua leget mixto quincunce, sed ante
 incipiat positus quam *tepuisse* calix.

Mart. I. 55. 7: cui *licet* exuuiis nemoris rurisque beato
 [A] ante focum plenas *explicuisse* plagas
 et piscem . . . ducere . . . et promere mella.

Mart. VI. 43. 7: quondam laudatas quocunque *libebat* ad undas
 [A] currere nec longas *pertimuisse* uias.

Ov. Ar. Am. III. 525: quis *uelat* a magnis ad res exempla minores
 [A] sumere, nec nomen *pertimuisse* ducis?

Ov. Ib. 11: ille relegatum gelidos aquilonis ad ortus
 [A] non *sinit* exilio *delituisse* meo.

Ov. ex P. II. 2. 124 [C]: nec *licet* ante ipsos *procubuisse* deos.

Ov. Fas. VI. 230 [A]: non unguēs ferro *subsecuisse* *licet*.

III. The infinitive is used substantively.

- Hor. Ep. I. 1. 41: uirtus est uitium fugere et *sapientia* prima
stultitia *caruisse*.
- Pers. IV. 17: quae tibi *summa boni est*? uncta *uixisse* patella
semper, et adsiduo curata cuticula sole?
- Ov. Am. II. 2. 28: quis minor est autem, quam *tacuisse*, labor?
- Ov. ex P. IV. 10. 82: quis labor est puram non *temerasse* fidem?
- Ov. Ar. Am. III. 370 [C]: maius opus mores *composuisse* suos.
- Ov. Ar. Am. I. 380 [A]: consilium tamen est *abstinuisse* meum.
- Mart. XIV. 135. 2 [C]: hoc opus est, pictis *accubuisse* toris.
- Ov. Ar. Am. II. 20 [C]: difficile est illis *imposuisse* modum.
- Ov. Rem. Am. 626 [A]: utile finitimis *abstinuisse* locis.
- Ov. ex P. III. 7. 35: est tamen utilius, studium cessare meorum,
quam, quas admorint, non *ualuisse* preces.
- Ov. ex P. I. 3. 45: effice . . .
talibus ut leuius sit *caruisse* malum.
- Mart. V. 25. 7: hoc, rogo, non melius, quam rubro pulpita nimbo
[A] spargere et effuso *permaduisse* croco?
- Mart. VI. 2. 1: lusus erat sacrae conubia fallere taedae.
[A] lusus et inmeritos *execuisse* mares.
- Mart. V. 19. 11: saturnaliae ligulam *misisse* selibrae
. . . luxuria est.
- Mart. IX. 8. 1: tanquam parua foret sexus iniuria nostri
[A] foedandos populo *prostituisse* mares.
- Ov. Ar. Am. I. 733: nec turpe putaris
[C] palliolum nitidis *imposuisse* comis.
- Ov. Ar. Am. II. 215: nec tibi turpe puta... quamuis sit turpe, placebit...
[A] ingenua speculum *sustinuisse* manu.
- Ov. ex P. II. 6. 19: turpe erit in miseris ueteri tibi rebus amico
auxilium nulla parte *tulisse* tuum:
turpe referre pedem, nec passu stare tenaci:
[B] turpe laborantem *deseruisse* ratem.
- Ov. Am. I. 10. 41: turpe, tori reditu census augere paternos,
[A] et faciem lucro *prostituisse* suam.

In these last two examples the perfect infinitives might be regarded as having their proper force of completed action were it not for the present infinitives in the same construction. The same holds true for the following examples : —

- Mart. VI. 44. 1 : festiue credis te, Calliodore, iocari
 [A] et solum multo *permaduisse* sale.
Mart. XII. 82. 9 : exiguos secto comentem dente capillos
 [C] dicet Achilleas *disposuisse* comas.

Although both these examples are cases of indirect discourse, *iocari* and *comentem* show that the time of the infinitives is present, and not past. In this use, then, the Latin does not follow the Greek, for the aorist infinitive in indirect discourse should denote past time.

To recapitulate briefly the results of this investigation : in early Latin the perfect infinitive with its proper significance was made to depend on the verb *nolo* or *uolo* in prohibitions ; but since the verb of wishing contained the idea of futurity, the whole clause acquired the force of a future perfect expression. Later writers, and especially the poets, transferred this use to negative clauses, not prohibitive, containing verbs of wishing, and secondly to clauses containing verbs like *laboro*, *amo*, and *timeo*, “Verba der Willensrichtung.” Since these verbs contain the idea of futurity, the present infinitive joined with them has the force of a future, the perfect infinitive the force of a future perfect.

The tendency of the Latin writers to use the future perfect for the future, through an overstrained desire to be exact, led them in these clauses to use the perfect infinitive instead of the present. The poets, and especially the elegiac poets, took advantage of the opportunity thus offered and transferred the use to other constructions which did not contain a verb of wishing. The reasons for this were two : first, the present infinitive of a large number of verbs which they wished to use, on account of metrical difficulties could not be used in their verse, or could only be used under certain restrictions ; second, the perfect infinitive of these verbs was peculiarly adapted to the necessities of the last half of pentameter verse.

The infinitive in this use seemed to have the force of an aorist in-

finite in Greek, and, in course of time, came to be used by the poets even where the metre admitted the use of the present infinitive.

No examples are found in prose which cannot be explained as regular uses of the perfect.

The ease with which the perfect infinitive could be used in the last half of the pentameter led to such constant use that it at times actually constitutes a blemish ; e.g. —

Tib. I. 8. 7-12 :

desine dissimulare : deus crudelius urit,
quos uidet inuitos *succubuisse* sibi.
quid tibi nunc molles prodest coluisse capillos
saepeque mutatas *disposuisse* comas,
quid fuco splendente genas ornare, quid unguis
artificis docta *subsecuisse* manu?

Ov. Her. IX. 71 :

detrahat Antaeus duro redimicula collo,
ne pigeat molli *succubuisse* uiro.
inter Ioniacas calathum tenuisse puellas
diceris, et dominae *pertimuisse* minas.
non fugis, Alcide, uictricem mille laborum
rasilibus calathis *imposuisse* manum?

In the fourteen distichs of this last poem, beginning with vs. 59, the pentasyllabic perfect infinitive occurs seven times in the last half of the pentameter.

PLUTARCH ΠΕΡΙ ΕΥΘΥΜΙΑΣ.

BY HAROLD N. FOWLER.

THIS treatise is in the form of a letter from Plutarch to Paccius, who had asked for an explanation of certain points in Plato's *Timaeus*, and also for "something about tranquillity of mind." Plutarch excuses himself, on the score of lack of time, from discussing the *Timaeus*, and says that what he offers on the subject of tranquillity is merely put together from the notes and quotations he happened to have at hand (*ἀνελεξάμην περὶ εὐθυμίας ἐκ τῶν ὑπομνημάτων ὧν ἐμαντῶ πεποιημένος ἐτύγχανον*). In other words, this treatise is professedly made up of extracts from Plutarch's philosophical notebook.

After a rather long introduction (§ 1), Plutarch attacks the Epicurean doctrine that he who wishes to attain tranquillity should withdraw himself from the world, and busy himself as little as possible with public and private affairs. This doctrine, he says, is like the advice given to the sick man, —

μέν', ὦ ταλαίπωρ', ἀτρέμα σοῖς ἐν δαίμοσι,¹

and to prove its worthlessness he brings forward the lack of tranquillity in women in spite of their domestic and retired life, and cites also the examples of Laertes and Achilles to show that retirement

¹ Eur. Or. 258. One is frequently tempted to use the quotations with which the philosophical works of Plutarch and his contemporaries are garnished as convenient signs by the recurrence of which one may be guided in the search for the sources of philosophical doctrines. That such merely accidental signs must be used with caution is a matter of course, but this particular line is well adapted to serve as a warning. Among the writings which go under Plutarch's name, it occurs at least five times (here, *Anim. an Corp. Aff. sint peior.* III = 501 C, an *Seni sit ger. Res P.* IX = 788 F, *de Plac. Phil.* IV, 12 = 901 A, *adv. Colot.* XXXII = 1126 A), and each time in very different surroundings, so that it is absurd to suppose that it is quoted from any previous philosopher, but it must be derived either directly from Euripides, or (which is far more probable) from a *florilegium* or book of quotations.

does not bring tranquillity. Substantially the same doctrines which Plutarch here advocates are advanced by Seneca de Tranq. An. I, who cites Zeno, Cleanthes, and Chrysippus (*i.e.* the Stoics in general) as authorities. Very similar, too, is the doctrine attributed to Athenodorus by Seneca de Tranq. An. III.¹ The example of Achilles is also cited by Seneca de Tranq. An. II,² and by Cicero, Tusc. III, viii, who refers to a discussion by Dionysius Heracleotes of the verses —

Corque meum penitus turgescit tristibus iris
Cum decore atque omni me orbatum laude recorder.

As these verses are in no way identical with those quoted by Plutarch (II. I, 488 sqq. and XVIII, 104), it appears that Achilles was a stock example of lonely discontent. After quoting the verses of the Iliad, Plutarch goes on to say: *ὅθεν οὐδὲ Ἐπίκουρος οἶεται δεῖν ἡσυχάζειν, ἀλλὰ τῇ φύσει χρῆσθαι πολιτευομένους καὶ πράσσοντας τὰ κοινὰ τοὺς φιλοτίμους καὶ φιλοδόξους, ὥς μᾶλλον ὑπ' ἀπραγμοσύνης ταράττεσθαι καὶ κακοῦσθαι πεφυκότας, ἢ ὧν ὀρέγονται μὴ τυγχάνωσιν. ἀλλ' ἐκεῖνος μὲν ἀποπος, οὐ τοὺς δυναμένους τὰ κοινὰ πράσσειν προτρεπόμενος, ἀλλὰ τοὺς ἡσυχίαν ἀγειν μὴ δυναμένους.* This agrees with Seneca ad Serenium de Otio III, 2: *duae maxime et in hac re dissident sectae Epicureorum et Stoicorum, sed utraque ad otium diuersa uia mittit. Epicurus ait: "non accedet ad rem publicam sapiens nisi si quid interuenerit." Zenon ait: "accedet ad rem publicam nisi si quid impediuerit."*³ The words *ὅθεν οὐδὲ Ἐπίκουρος οἶεται* show plainly enough that the attack upon the doctrine of absolute rest is not derived from an Epicurean source (as indeed it hardly could be), but there is no direct indication of the source from which it is

¹ The doctrine of rest is attributed by Seneca de Tranq. An. XIII, to Democritus: *hoc secutum puto Democritum ita coepisse "qui tranquille uolet vivere, nec privatim agat multa nec publice," ad supervacanea scilicet referentem.* Cf. Laert. Diog. IX, c. vii, 12, § 45. Epicurus took this doctrine, like so many others, from Democritus. In opposing this doctrine, Seneca de Ben. IV, 13, is evidently opposing the Epicureans.

² R. Hirzel, *Hermes* XIV, p. 356, refers this passage in Seneca to Democritus *περὶ εὐθυμίας*, and compares Plato *Phileb.* p. 46, where Democritus is evidently referred to. See also Hirzel, *Unters. zu Cic. Phil. Schriften*, I, p. 145.

³ See Usener, *Epicurea*, p. 95. Cf. Sen. de Tranq. An. XIII: *ubi uero nulum officium sollemne nos citat, inhibendae actiones, which is to be referred to Democritus.*

derived. The last part, at least, of this chapter (II) seems to be carelessly copied from some previous writer. The chapter ends with the words: τῶν γὰρ καλῶν ἢ παράλειψις οὐχ ἦττον ἢ τῶν φαύλων ἢ πρᾶξις ἀνιάρων ἐστὶ καὶ ταραχώδες, ὡς εἴρηται; but this has not been stated anywhere by Plutarch, so that it is evident that the words ὡς εἴρηται, with what immediately precedes, must have been copied without due regard to the connection in which they now come to stand.

The latter part of Chapter III is in substance the same as part of de Virt. et Vit. IV.

de Tranq.

εἰτα τῆς νόσου διαλυθείσης καὶ κράσεως ἐτέρας γενομένης, ἦλθεν ἡ ὑγεία φίλα πάντα ποιούσα καὶ προσηνῇ. ὁ γὰρ χθές ὡὰ καὶ ἀμύλια καὶ σπητάνειον ἄρτον διαπτύων, τήμερον αὐτόπυρρον ἐπ' ἐλαίαις ἢ καρδαμίδι σιτεῖται προσφιλῶς καὶ προθυμῶς. IV. τοιαύτην ὁ λογισμὸς εὐκολίαν καὶ μεταβολὴν ἐγγενόμενος μεταποιεῖ πρὸς ἕκαστον βίον.

de Virt. et Vit.

Οὐχ ὁρᾷς τοὺς νοσοῦντας, ὅτι τῶν βρωμάτων τὰ καθαριώτατα καὶ πολυτελέστερα δυσχεραίνουσι καὶ διαπτύουσι καὶ παραιτοῦνται προσφερόντων καὶ βιαζομένων· εἰτα τῆς κράσεως μεταβαλοῦσης, καὶ πνεύματος χρηστοῦ καὶ γλυκέος αἵματος ἐγγενομένου καὶ θερμότητος οἰκείας, ἀναστάντες ἄρτον λιτὸν ἐπὶ τυρῷ καὶ καρδάμῳ χαίρουσι καὶ ἀσμενίζουσιν ἔσθοντες; τοιαύτην ὁ λόγος ἐμποιεῖ τῇ ψυχῇ διάθεσιν· καὶ αὐτάρκης ἔσθ, ἐὰν μάθῃς τί τὸ καλὸν καὶ ἀγαθὸν ἐστὶ.

There can be no doubt that these passages are derived from the same original, though it may be that they passed through some other hand before they were adopted by Plutarch. Perhaps they are to be ascribed to Chrysippus, whose habit of comparing the diseases of the mind with those of the body is well known. Galen. de Plac. Hipp. et Plat. V, 439 sq. quotes Chrysippus ἐν τῷ περὶ παθῶν ἠθικῷ· “Διὸ κατὰ τρόπον προῆκται Ζήνωνι λόγος· ἡ δὲ τῆς ψυχῆς νόσος ὁμοιοτάτη ἐστὶ τῇ τοῦ σώματος ἀκαταστασίᾳ. λέγεται δὲ εἶναι σώματος νόσος ἡ ἀσυμμετρία τῶν ἐν αὐτῷ θερμοῦ καὶ ψυχροῦ, ξηροῦ καὶ ὑγροῦ,” and again “ἡ δὲ ἐν τῷ σώματι ὑγεία εὐκρασία τις καὶ συμμετρία τῶν ὁ εἰρημένων.”

Chapter IV begins with a series of contrasts: Alexander's discon-

tent and Crates' happiness, Agamemnon's heaviness of spirit and Diogenes' jokes, Socrates happy in his prison and Phaethon in tears at being refused permission to drive the chariot of the sun. The treatise *περὶ φυγῆς* ends (607 F) with a similar set of contrasts: 'Ἀναξαγόρας μὲν ἐν τῷ δεσμότηρίῳ τὸν τοῦ κύκλου τετραγωνισμὸν ἔγραφε. Σωκράτης δὲ φάρμακον πίνων ἐφιλοσόφει, καὶ παρεκάλει φιλοσοφεῖν τοὺς συνήθεις, εὐδαιμονιζόμενος ὑπ' αὐτῶν. τὸν δὲ Φαέθοντα καὶ τὸν Τάνταλον εἰς τὸν οὐρανὸν ἀναβάντας οἱ ποιηταὶ λέγουσι ταῖς μεγίσταις συμφοραῖς περιπεσεῖν διὰ τὴν ἀφροσύνην. It is possible that the collocation of Socrates and Phaethon in these two passages is purely fortuitous, but it seems more probable that both passages are derived from the same source, where a large number of examples was put together, from which Plutarch and his contemporaries could take and leave what they pleased. This source may have been a mere collection of anecdotes arranged under ethical heads, or it may have been a philosophical treatise with copious illustrative stories.

The next part of this chapter opposes the doctrine that habit makes the best life agreeable: ὥσπερ οὖν τὸ ὑπόδημα τῷ ποδί συνδιαστρέφεται, καὶ οὐ τοῖναντίον, οὕτω τοὺς βίους αἱ διαθέσεις συνεξομοιοῦσιν αὐταῖς. οὐ γὰρ ἡ συνήθεια ποιεῖ τοῖς ἐλομένοις τὸν ἀριστον βίον ἢ δὴν, ὥς τις εἶπεν, ἀλλὰ τὸ φρονεῖν ἅμα τὸν αὐτὸν βίον ποιεῖ καὶ ἀριστον καὶ ἡδιστον. Hirzel (*Hermes* XIV, p. 366, f) thinks that ὥς τις εἶπεν refers to Democritus, and compares fr. 84 ed. Mullach πόνος ξυνεχὴς ἐλαφρότερος ἐωντοῦ τῇ ξυνηθείᾳ γίνεται and Sen. de Tranq. X, 1, 2, 4.¹

If Chapter II (see above) refers directly to Democritus, it is probable that this passage does also. Then the words ἀλλὰ τὸ φρονεῖν . . . ἡδιστον might be taken from some opponent of Democritus (Hirzel thinks Panaetius), but they agree remarkably well with Democr. fr. 5 (Democrat. Orell. n. 6), οὔτε σώμασι οὔτε χρήμασι εὐδαιμονέουσι ἄνθρωποι, ἀλλ' ὀρθοσύνη καὶ πολυφροσύνη. Perhaps this entire passage is to be referred ultimately to Democritus, in which case ὥς τις εἶπεν may be merely a general expression for any one who dissents. The doctrine that habit is of great importance in calming

¹ 1. necessitas fortiter ferre docet, consuetudo facile. 2. nullo meliore nomine de nobis natura meruit, quam quod cum sciret quibus aerumnis nasceremur, calamitatum mollimentum consuetudinem inuenit, cito in familiaritatem grauissima adducens. 4. adsuescendum est itaque condicioni suae et quam minimum de illa querendum.

sorrow was accepted by Chrysippus, as quoted by Galen. de Plac. Hipp. et Plat. IV, 419. The fourth chapter ends with Eur. fr. 289 Nauck:—

τοῖς πράγμασιν γὰρ οὐχὶ θυμοῦσθαι χρεών·
μέλει γὰρ αὐτοῖς οὐδέν, ἀλλ' ὁ τυγχάνων
τὰ πράγματ' ὁρθῶς ἂν τιθῇ, πράξει καλῶς.

After this, Chapter V begins with Plato's comparison of life to a game at dice, in which we are not responsible for the throw, but only for the use we make of it, and leads up by three further comparisons to the opening words of Chapter VI: *τοῦτο οὖν δεῖ πρῶτον ἀσκεῖν καὶ μελετᾶν, ὥσπερ ὁ τῆς κυνὸς ἀμαρτῶν τῷ λίθῳ, καὶ τὴν μητρυνὴν πατάξας*. Οὐδ' οὕτως, ἔφη, κακῶς. This state of contentment, undisturbed by unexpected reverses, is further exemplified by Diogenes' acceptance of his exile, and Zeno's quiet acquiescence in the loss of his last ship. This last story occurs also in Sen. de Tranq. XIV, 3, as the story of Anaxagoras in Chapter XVI occurs in Seneca XI, whence Hirzel concludes that Seneca and Plutarch both took it from Panaetius; but the same story is found de Cap. ex Inim. Util. II, de Exil. XI, Sen. de Tranq. XIV, Laert. Diog. VII, 5, Anton. et Max. p. 820.

That it is in all these instances taken directly from Panaetius *περὶ εὐθυμίας* appears highly improbable, and leaves room for some doubt regarding the source from which Plutarch and Seneca derived it in their treatises on tranquillity of mind. It is, however, reasonable to suppose that both Plutarch and Seneca had read Panaetius, and they may perhaps have taken this anecdote from him without the intervention of a florilegium. The advice given by Plutarch in the same chapter, that we comfort ourselves by considering the misfortunes of the great (*διὸ καὶ τοῦτο πρὸς εὐθυμίαν μέγα, τὸ τοὺς ἐνδόξους ἀποθεωρεῖν εἰ μὴδὲν ὑπὸ τῶν αὐτῶν πεπόνθασιν*) is given and elaborated in somewhat different forms by Seneca ad Polyb. de Consol. XIV sqq., and ad Marciam de Consol. XII sq. It is to be remarked that the treatise *περὶ εὐθυμίας* has a strong general resemblance to the "Consolationes," even when particular passages do not exactly correspond.

Chapter VII may be passed over with the remark that its prevailing character is Stoic. The line of Sophocles, —

πικρὰν χολὴν κλύζουσι φαρμάκῳ πικρῷ,

occurs also de Facie in Orbe Lunae VII.

Chapter VIII begins: *ὅθεν ἐκείνον αὖθις τὸν περὶ τῶν πραγμάτων λόγον ἀναλάβωμεν*. These words refer apparently to the end of Chapter IV, so that the intervening chapters may be regarded as an addition inserted after Chapter IV and its continuation in Chapter VIII had been written. Yet this is not a connected episode, but rather a number of loosely joined anecdotes and remarks. The first part of Chapter VIII is the development of the idea advanced in Chapter IV, from which, by a natural transition, Plutarch goes on to recommend that we pay attention to those points in which we are fortunate rather than to those in which we are the reverse.¹

Chapter X begins: *καίτοι καὶ τοῦτο μέγα πρὸς εὐθυμίαν ἐστὶ, τὸ μάλιστα μὲν αὐτὸν ἐπισκοπεῖν καὶ τὰ καθ' ἑαυτὸν, εἰ δὲ μὴ, τοὺς ὑποδεεστέρους ἀποθεωρεῖν, καὶ μὴ, καθάπερ οἱ πολλοὶ πρὸς τοὺς ὑπερέχοντας ἀντιπαρεξάγουσιν*, with which Democritus, frg. 20 (Stob. Flor. I, 40), may be compared: *ἐπὶ τοῖσι δυνατοῖσι ὧν δέει ἔχειν τὴν γνώμην καὶ τοῖσι παροῦσι ἀρκέεσθαι, τῶν μὲν ζηλουμένων καὶ θωυμαζομένων ὀλίγην μνήμην ἔχοντα καὶ τῇ διανοίῃ μὴ προσεδρεύοντα, τῶν δὲ ταλαιπωρεόντων τοὺς βίους θεωρεῖν, ἐννοεῖμενον τὰ πάσχουσι κάρτα, ὅκως ἂν τὰ παρόντα σοὶ καὶ ὑπάρχοντα μεγάλα καὶ ζηλωτὰ φαίνεται καὶ μηκέτι πλείονων ἐπιθυμούντι ξυμβαίνει κακοπαθεῖν τῇ ψυχῇ. . . . διόπερ τὰ μὲν μὴ δίξασθαι χρεών, ἐπὶ τοῖσι δὲ εὐθυμεῖσθαι χρεών, παραβάλλοντα τὸν ἑωυτοῦ βίον πρὸς τὸν τῶν φαυλότερον πρησόντων, καὶ μακαρίζειν ἑωυτόν, ἐνθυμείμενον τὰ πάσχουσι, ὅκως αὐτέων βέλτιον πρήσση τε καὶ διάγη*. That Plutarch is here making use of Democritus cannot be doubted, but there is so little verbal agreement between the above passages, that the conclusion is forced upon us that, although Democritus is the ultimate source of Plutarch's doctrine, the words are derived from some other writer.

The verses of Archilochus, —

οὔ μοι τὰ Γύγω τοῦ πολυχρύσου μέλει, κτλ.,

furnish another proof that Plutarch copied his quotations not directly from the works of the poets, but from anthologies; for after quoting the verses he proceeds: *Θάσιος γὰρ ἦν ἐκείνος*, that is, of course, Archilochus, who emigrated from his native Paros to Thasos. But Aristotle (Rhet. III, 17, p. 1418 δ) says: *ποιεῖ γὰρ* (*sc.* Archilochus)

¹ The verses in Chapter VIII occur also de Curiositate I.

λέγοντα Χάρωνα τὸν τέκτονα ἐν ἰάμβῳ, οὗ ἡ ἀρχή· οὗ μοι τὰ Γύγῳ, so that the *ἐκείνος* of Plutarch ought to refer to Charon, not to Archilochus. If Plutarch had known this (*i.e.* if he had read the whole poem, and not merely the familiar quotation), he must have expressed himself differently.

The next illustration is very like Sen. de Tranq. IV, 5. Plutarch says : ἄλλος δέ τις Χῖος, ἄλλος δὲ Γαλάτης ἢ Βιθυνὸς, οὐκ ἀγαπῶν, εἴ τινος μερίδος ἢ δόξαν ἢ δύναμιν ἐν τοῖς ἑαυτοῦ πολίταις εἴληχεν, ἀλλὰ κλαίων, ὅτι μὴ φορεῖ πατρικίους· ἐὰν δὲ καὶ φορῇ, ὅτι μηδέπω στρατηγεῖ Ῥωμαίων· ἐὰν δὲ καὶ στρατηγῇ, ὅτι μὴ ὑπατεύει· καὶ ὑπατεύων, ὅτι μὴ πρῶτος ἀλλ' ὕστερος ἀνηγορεύθη. Seneca : non uis enim nisi consul aut prytanis aut ceryx aut suus administrare rem publicam. quid si militare nolis nisi imperator aut tribunus? and in a different connection the same illustration is found in Sen. de Ben. II, 27, 4 : aequae ambitio non patitur quemquam in ea mensura honorum conquiescere quae quondam eius fuit impudens uotum : nemo agit de tribunatu gratias, sed queritur, quod non est ad praeturam usque perductus. nec haec grata est, si deest consulatus. ne hic quidem satiat, si unus est. It is not very probable that these three passages are derived immediately from the same source. Seneca de Beneficiis is, for the most part, taken from Hecato ;¹ Hirzel has shown² that Seneca de Tranquillitate imitates Democritus ; Plutarch follows various authorities. The illustration in question is a very natural one, and was doubtless employed by some early writer. Perhaps Democritus was the first to use it, and Seneca de Tranq. gives it in a less Roman and more Greek form than that of the other two passages where it occurs ; but it does not follow from this that Hecato or Seneca or Plutarch took it from Democritus, but only that it had become familiar, and was found in various places and connections.

The story told of Socrates near the end of Chapter X is told by Teles (Peerlkamp, Musonius, p. 185 ; Stob. Flor. V, 67) in nearly the same form of Diogenes. It is easy for such anecdotes to be shifted from one person to another.

Plutarch's advice in Chapter XI, that one should not be dazzled by the outward happiness of others, ἀλλ' ἀνακαλύψας καὶ διαστείλας ὥσπερ

¹ Transactions of the American Philological Association, 1886, p. 24 ff.

² Hermes XIV, p. 354 ff.

ἀνθρῶν παραπέτασμα τὰς δόξας αὐτῶν καὶ τὴν ἐπιφάνειαν, ἐντὸς γενοῦ, καὶ κατόψει πολλὰ δυσχερῇ καὶ πολλὰς ἀγρίας ἐνούσας αὐτοῖς, has been compared by Hirzel with Democr. frg. 18, εἶδωλα ἐσθῆτι (with Meineke for αἰσθητικά) καὶ κόσμῳ διαπρεπέα πρὸς θεωρίην, ἀλλὰ καρδίας κενεά. The first poetic illustration recurs de Virt. et Vit. II.

The first part of Chapter XII (οὐχ ἥκιστα τοίνυν εὐθυμίαν κολούει τὸ μὴ συμμετέροις χρῆσθαι, πρὸς τὴν ὑποκειμένην δύναμιν ὁρμαῖς, ὥσπερ ἱστίοις, ἀλλὰ μειζόνων ἐφιεμένους ταῖς ἐλπίσιν, εἴτ' ἀποτυγχάνοντας, αἰτιάσθαι δαίμονα καὶ τύχην, ἀλλὰ μὴ τὴν αὐτῶν ἀβελτηρίαν) is compared by Hirzel with Sen. de Tranq. X, 5 (non sunt praeterea cupiditates in longinquum mittendae, sed in uicinum illis egredi permittamus, quoniam includi ex toto non patiuntur, relictis his, quae aut non possunt fieri aut difficulter possunt, prope posita speique nostrae adludentia sequamur), and Democr. frg. 79 (ἐλπίδες αἱ τῶν ὀρθὰ φρονούντων ἐφικταί, αἱ δὲ τῶν ἀξυνέτων ἀδύνατοι). The same idea is repeated by Seneca ib. XII, 1: proximum ab his erit, ne aut in superuacuis aut ex superuacuo laboremus, id est, *ne quae aut non possumus consequi concupiscamus*, aut adepti uanitatem cupiditatum nostrarum sero post multum pudorem intellegamus. Hirzel also observes that the first part of this chapter has points of resemblance to Sen. de Tranq. VI and Democr. frg. 147 and 14. The reference to the Stoic paradox that the wise man is not only good and noble, but also a general, a poet, a king, etc., is evidently derived from a Stoic source.

The saying of Aristotle about Alexander, οὐκ Ἀλεξάνδρῳ μόνον προσήκει μέγα φρονεῖν, ὅτι κρατεῖ πολλῶν ἀνθρώπων, ἀλλ' οὐχ ἥττον οἷς ὑπάρχει περὶ θεῶν αἰεὶ δοξάζειν, in Chapter XIII, occurs de Profect. in Virt. VI and de Seips. citr. Inv. Laud. XVI, both times in connection with Agesilaus' query in respect to the Persian king, τί ἐμοῦ μείζον ἐκείνος εἰ μὴ καὶ δικαιότερος; so that these two passages may probably be derived from the same source, but that the passage in περὶ εὐθυμίας has any real connection with them does not appear.¹

The beginning of Chapter XIV, ὅτι δὲ ἕκαστος ἐν ἑαυτῷ τὰ τῆς εὐθυμίας καὶ τῆς δυσθυμίας ἔχει ταμεῖα, is compared by Hirzel with Democr. frg. 96 (Plut. vol. VII, p. 950, ed. Reiske, p. 500, ed. Xyl.),

¹ The first, third, and fourth lines of the quotation from Pindar are found also de Virt. Mor. XII.

ἀν δὲ σαντὸν ἐνδοθεν ἀνοίξης, ποικίλον τι καὶ πολυπαθὲς κακῶν ταμείον εὐρήσεις καὶ θησαύρισμα, though the likeness is not so striking as to lead one to assign this passage to Democritus, except for the likeness of the teaching of this chapter to that in the first part of Chapter XII, where a comparison with Democritus was easy. The doctrine that every man is the steward of his own happiness is sufficiently common to make a reference to any particular source unnecessary and rather forced, but the use of the word *ταμεία* lends countenance to Hirzel's assumption that Democritus is the original of at least the beginning of this chapter. The figure of the two casks ἐν Διὶ οὔδει (Il. Ω 527) is carried out in detail de Exil. IV (cf. de Aud. Poet. VI).

The figure of the ass eating the straw rope may have been, — like the cask of the Danaides, — a common one to express thankless and fruitless toil, but it is at any rate a very natural figure for Plutarch to employ, as he must have been familiar with the famous picture by Polygnotus at Delphi (Paus. X, 29). This chapter agrees with what Cicero, Tusc. III, 15, 32, gives as the doctrine of Epicurus: leuationem autem aegritudinis in duabus rebus ponit, auocatione a cogitanda molestia et reuocatione ad contemplandas uoluptatis: parere enim censet animum rationi posse et quo illa ducat sequi. uetat igitur ratio intueri molestias, abstrahit ab acerbis cogitationibus, hebetem *facit* aciem ad miseras contemplandas, a quibus cum cecinit receptui impellit rursum et incitat ad conspiciendas totaque mente contrectandas uarias uoluptatis, quibus ille et praeteritorum memoria et spe consequentium sapientis uitam refertam putat. The first part of Chapter XV cannot be separated from what precedes.

In Chapter XVI ὁ τῆς αὔριον ἡκιστα δεόμενος ἡδιστα πρόσεισι πρὸς τὴν αὔριον is quoted from Epicurus,¹ and the recommendation to moderation which follows is in agreement with his doctrines. The rest of the chapter is taken up with the Cyrenaic² doctrine that unexpected evils are more painful. The calmness of Anaxagoras upon the announcement of his child's death is a favorite anecdote.³

¹ For similar passages, see Usener, Epicurea, p. 307.

² Cic. Tusc. III, 22: Cyrenaicorum restat sententia: qui aegritudinem censent exsistere si necopinato quid euenit. est id quidem magnum, ut supra (14) dixi.

³ It is told or referred to: de Cohib. Ira XVI, 463 D; de Cons. ad Apoll. XXXIII; Sen. de Tranq. XI; ad Polyb. de Cons. XI; Cic. Tusc. III, 14. Cicero

In opposition to the Epicurean doctrine that one should not think of unpleasant possibilities,¹ Plutarch advises to prepare the mind for every chance, a Stoic doctrine which is also taught in Chapter XIX, Cic. Tusc. III, 14; Sen. de Tranq. XI; ad Marc. de Consol. IX; Pseudo Plut. Cons. ad Apoll. XXI; Posidonius ap. Galen. de Plac. Hipp. et Plat. IV, 417.

Chapter XVII begins with the doctrine that our troubles are a matter of opinion. This is an Epicurean doctrine,² but was also accepted by Stoic philosophers.³ It is summed up from a negative point of view in the verse of Menander (quoted also de Exil. I):—

οὐδὲν πέπονθας δεινὸν ἂν μὴ προσποιῇ.

The passage *ὅθεν οὐ δεῖ . . . οὐδὲ παρελίσθαι τὴν διάθεσιν* is quoted by Stob. Ecl. Eth. p. 199, as a fragment of Plutarch's lost treatise, *περὶ φιλίας*.

The first part of Chapter XVIII is Epicurean. The passage *τὸν*

seems to have taken the story from Posidonius, to whom it is ascribed by Galen. de Plac. Hipp. et Plat. IV, 7, p. 418. Posidonius is here contending against the definition of grief given by Chrysippus: *λύπη ἐστὶ δόξα πρόσφατος κακοῦ παρουσίας* (p. 416). After some other arguments the extract goes on (p. 417): *καὶ φησι* (*sc.* Posidonius), *διότι πᾶν τὸ ἀμέτρητον καὶ ξένον ἄθρόως προσπίπτον ἐκπλήττει τε καὶ τῶν παλαιῶν ἐξίστησι κρίσεων, ἀσκηθὲν δὲ καὶ συνεθισθὲν καὶ χρονίσαν ἢ οὐδὲ ὅλως ἐξίστησιν, ὥς κατὰ πάθος κινεῖν, ἢ ἐπὶ μικρὸν κομιδῇ, διὸ καὶ προενδημεῖν δεῖν φησι τοῖς πράγμασι μήπω τε παροῦσιν οἷον παροῦσι χρῆσθαι. βούλεται δὲ τὸ προενδημεῖν ῥῆμα τῷ Ἰσοκρίδῳ τὸ οἷον προαναπλάττειν τε καὶ προτυποῦν τὸ πρᾶγμα παρὰ ἑαυτῷ τὸ μέλλον γενήσεσθαι καὶ ὥς πρὸς ἤδη γενόμενον ἐθισμὸν τινα ποιεῖσθαι κατὰ βραχύ. διὸ καὶ τὸ τοῦ Ἀναξαγόρου προεἰληφέν ἐνταῦθα, ὥς ἔρα τινὲς ἀναγγέλλαντος αὐτῷ τεθνάναι τὸν υἱόν, εὖ μάλα καθεστηκότως εἶπεν, ἥδειν θνητὸν γεννήσας, καὶ ὥς τοῦτο λαβὼν Εὐριπίδης τὸ νόημα τὸν Θῆσεα πεποίηκε λέγοντα: Eurip. frg. 392 Nauck, and frg. 818. *ὅτι δὲ ἐν τῷ χρόνῳ μαλάττεται τὰ πάθη κἂν αἱ δόξαι μένωσι τοῦ κακὸν τι αὐτοῖς γεγονέναι, καὶ ὁ Χρύσιππος ἐν τῇ δευτέρῳ περὶ παθῶν μαρτυρεῖ, κτλ., and p. 420 ὅτι μὲν οὖν ἐν τῷ χρόνῳ παύεται τὰ πάθη καίτοι τῆς δόξης διαμενούσης, αὐτὸς ὁ Χρύσιππος ὁμολογεῖ.**

¹ Cic. Tusc. III, 16: principio male reprehendunt (*sc.* Epicurei) praemeditationem rerum futurarum.

² Cic. Tusc. III, 13, 28: Epicuro placet opinionem mali aegritudinem esse natura, ut quicumque intueatur in aliquod maius malum, id si sibi accidisse opinetur, sit continuo in aegritudine. Cf. *ibid.* 15, 32.

³ *ὁδὲν γὰρ εἶναι πρόσφατον τοῦ κακὸν αὐτῷ παρῆναι φησι τὴν λύπην.* Posidonius as cited above.

μὲν γὰρ ἀνόητον ὁ τοῦ θανάτου φόβος, οὐχ ὁ τοῦ ζῆν πόθος ἐκκρέμασθαι τοῦ σώματος ποιεῖ, περιπεπλεγμένον, ὥσπερ τὸν Ὀδυσσεύα, τῷ ἐρινεῶ, δεδοικότα τὴν Χάρυβδιν ὑποκειμένην,

ἐνθ' οὔτε μέμνειν ἄνεμος οὔτε πλεῖν ἐᾷ,

is compared by Hirzel with Democr. frg. 54, ἀνοήμονες τὸ ζῆν ὡς στυγέοντες, ζῆν ἐθέλουσι δείματι Ἰδέω. Epicurus expressed much the same idea in paradoxical form. Seneca Epist. 24, 22, says: obiurgat Epicurus non minus eos qui mortem concupiscunt quam eos qui timent, et ait: "ridiculum est currere ad mortem taedio uitae, cum genere uitae ut currendum ad mortem esset effeceris." item alio loco dicit: "quid tam ridiculum quam adpetere mortem, cum uitam inquietam tibi feceris metu mortis?"¹ The rest of the chapter is Stoic² in character, for it is taken up with an argument against the (Epicurean) doctrine that one should not think of unpleasant things. This part of the chapter is, however, not directed against the first part.

Chapter XX resembles in a general way the last chapter of Sen. de Tranq. Up to this point both Plutarch and Seneca have given precepts for the banishment of care and trouble; now they turn to the recommendation of joy and gayety.

Hirzel, Hermes XIV, p. 354 ff., discusses Seneca de Tranq., and shows that a great part of that treatise is derived from Democritus περὶ εὐθυμίας. There can be no doubt that this conclusion is correct. Seneca, who appears for the most part as a Stoic, stands throughout this treatise upon Epicurean (or, more strictly, Democritean) ground, and when he cites Stoic authorities (I, 10; III, 1; VII, 2; XIV, 3), uses them merely as illustrations. The points of resemblance between Plutarch's treatise and that of Seneca have been noticed above. Hirzel thinks that Plutarch opposes the doctrines of Democritus. This is certainly the case in Chapter II, if the doctrine of absolute rest is properly ascribed to Democritus. But the passages cited above show that neither Democritus nor Epicurus really advanced any such doctrine. If the polemic against this doctrine is meant to be directed against Democritus, it must have been conceived by some

¹ See Usener, Epicurea, p. 309 f.

² See Posidonius, as quoted above.

one who did not understand Democritus ; and that Panaetius was guilty of such carelessness is, even after Hirzel's explanation, hard to believe. It is, however, not true that Plutarch opposes Democritus throughout his treatise. Granting that he does so in Chapter II, he does not in Chapter IV (see above), Chapters X, XI, XII, XIV, XVI,¹ XVII, XVIII, nor XX. These are the only passages in which traces of Democritus *περὶ εὐθυμίας* can be believed to exist.² The rest of the treatise is mainly Stoic in character, but it is not so connected as to seem a systematic revision or reduction of one work by a previous writer. Chapter IV is taken up again in Chapter VIII, and Stoic and Epicurean doctrines alternate *without polemic*. The whole is interspersed with quotations from various poets and anecdotes of philosophers and rulers. That the poetic quotations are taken, not directly from the works of the poets, but from a florilegium or common-place book, is made clear by the recurrence of the same lines in different places, as well as by the somewhat forced manner of their introduction. The same is doubtless true of the anecdotes, though perhaps not to such an extent.³

The best known works on tranquillity were doubtless those of Democritus and Panaetius *περὶ εὐθυμίας*. The first of these furnished the greater part of the matter for Seneca de Tranquillitate. Hirzel thinks the second is followed by Plutarch. But Seneca wrote in Latin, and could, therefore, without discredit, follow Democritus or any other Greek writer. Plutarch wrote in Greek, and must, therefore, borrow with discretion. I do not mean to say by this that Seneca was so entirely dependent upon his Greek original as Cicero frequently was, but merely that he did not find it necessary to borrow from a variety of sources in order to hide his own lack of originality. Plutarch could hardly follow Panaetius as Seneca could Democritus, for any one who was interested in *εὐθυμία* and could read Greek,

¹ Unless the doctrine that one should not think of unpleasant possibilities be ascribed to Democritus, in which case Seneca, Chapter XI, opposes him quite as strongly.

² Hirzel does not explicitly ascribe all these passages to Democritus, but seems inclined to consider him responsible for all the non-Stoic parts of Plutarch's treatise.

³ The books called *χρῆται*, as, for instance, those of Hecato (frg. XX-XXIV, ed. Fowler), were collections of such anecdotes.

would naturally be acquainted with the work of Panaetius. It is natural in the search for the sources of a treatise like this to look first for other treatises on the same subject; but one must be on one's guard against relying too implicitly upon titles. Democritus and Panaetius wrote *περὶ εὐθυμίας*, but Epicurus wrote *περὶ βίων*, and Chrysippus *περὶ παθῶν*, and in both of these works there must have been sections treating of the means by which a calm and happy life may be attained. The same is true of other works known by other titles.¹ We have seen that Plutarch took his quotations and anecdotes from collections of such matters, and collections of philosophical doctrines are well known to have existed.² Stobaeus' florilegium and eclogae consist of selections from various writers, arranged under heads according to their contents. The extent to which this sort of compilation was carried cannot be accurately determined, but it must have been greatly in vogue long before the time of Plutarch. In Plutarch's own writings ethical doctrines recur (e.g. Chapter III) in forms but slightly different from one another, and it is not unreasonable to suppose that he who turned to common-place books for quotations and anecdotes obtained his ethical doctrines from similar sources. Not that Plutarch had not read Plato and other philosophers, but in writing a treatise like that *περὶ εὐθυμίας* he did not need to have recourse to them. He could turn more easily to his book of selections (which he himself may have made or at least added to), where he could find under the headings *εὐθυμία*, *ἀταραξία*, *λύπη*, and the like, all the material he needed. Then for his introduction and his last chapter he only needed to adapt the corresponding parts of Democritus' *περὶ εὐθυμίας*, and the work was done. That this was his method Plutarch himself seems to say in the opening section of this treatise, and the examination of his work confirms his words. In spite of this the truth remains, that much of the material of Plutarch's treatise belongs in the first instance to Democritus, but that does not show the direct use of Democritus by Plutarch, but only the influence which the first great writer on *εὐθυμία* exerted over all subsequent writers on the same subject.

¹ e.g. Crantor *περὶ πένθους*, Sphaerus *περὶ τῆς ἡθικῆς διατάξεως* and *περὶ παθῶν*, Cleanthes and Hecato *περὶ ἀρετῶν*, etc.

² Such as those of Aetius and Arius Didymus, treated by Diels, *Doxographi Graeci*.

The results of this examination are mainly negative. Only in a few instances has it been possible to find any indication of the origin of Plutarch's words or doctrines; but something has been accomplished if a little light has been thrown upon the method he pursued.

VITRUVIANA.

BY GEORGE M. RICHARDSON.

VITRUVIUS POLLIO, whose treatise *De architectura*, inscribed to Augustus, must from internal evidence¹ have been written about 14 B.C., has characterized his work on the grammatical side in an apology of his own: I. 1, 17 *peto, Caesar, et a te et ab is qui ea volumina sunt lecturi, ut si quid parum ad regulam artis grammaticae fuerit explicatum ignoscatur. namque non uti summus philosophus nec rhetor disertus nec grammaticus summis rationibus artis exercitatus sed ut architectus his litteris imbutus haec nisus sum scribere.* Some anomalies of syntax and style, noted in reading Vitruvius, I propose to indicate in this paper. They are mainly vulgar, colloquial expressions such as an unpractised literary hand would be likely to use.

The limitative use of the preposition *a, ab*, though doubtless common in every-day language, is rare in literature and mainly confined to those prime sources of vulgar Latin, Plautus and Cicero's Letters, e.g. Plaut. Truc. 47 *bis periit amator, ab re atque ab animo simul.* Vitruvius has this example: I. 1, 17 *cum ergo talia ingenia ab naturali sollertia non passim cunctis gentibus sed paucis viris habere concedatur, . . . peto e. q. s.*

Some interesting instances of the descriptive use of *cum* are seen in the following passages, where *cum* with a noun has the force of an adjective or adverb: I. 2, 5 *decor autem est emendatus operis aspectus probatis rebus compositi cum auctoritate*; ib. 6 *si enim interiora prospectus habuerint elegantes, aditus autem humiles et inhonestos, non erunt cum decore*; ib. 7 *ita efficitur uti ex natura loci maiores auctasque cum dignitate divinitas excipiat opiniones*; ib. 8 *distributio autem est copiarum locique commoda dispensatio parcaque in operi-*

¹ Cf. Teuffel, Röm. Lit.⁴ p. 575.

bus sumptus cum ratione temperatio; III. 1, 4 *ergo si ita natura composuit corpus hominis uti proportionibus membra ad summam figurationem eius respondeant, cum causa constituisse videntur antiqui ut e. q. s.*

Aliter repeated with a distributive force is not uncommon, but in this instance the phrase, with *atque* as its connective, has a peculiar turn: I. 1, 7 *incursibus enim et circumitionibus et librata planitie expressionibus spiritus naturales aliter atque aliter fiunt (aliter nunc, aliter nunc).*

"Das kopulative *nec* wird durch folgende Negation nicht aufgehoben, sondern verstärkt, aber nur in der alten Sprache mit Nachahmung bei Apuleius u. Gellius, z. B. 17, 21, 35 *neque haud longe post* und in der pleb. Sprache des Petron."¹ I add an example from Vitruvius: I. 1, 14 *nec tamen non tantum architecti non possunt in omnibus rebus habere summum effectum, sed etiam ipsi qui privatim proprietates tenent artium non efficiunt ut habeant omnes summum laudis principatum.*

Oppido, in Quintilian's time (VIII. 3, 25) already antiquated, was a purely vulgar word. Vitruvius has it four times followed by *quam*: I. 3, 7 *aquatiles autem piscium naturae quod temperatae sunt a calido plurimoque et aeris et terreni sunt compositae sed umoris habent oppido quam paulum, quo minus habent e principiis umoris in corpore, facilius in umore perdurant, e. q. s.*; VII. Praef. 14 *et ideo maxime quod animadverti in ea re ab Graecis volumina plura edita, ab nostris oppido quam pauca*; VIII. 3, 11 *admiscetur ei fonticulus oppido quam parvulus*; IX. (2), 2 *cum (luna) praeteriens vadat ad orientis caeli partes, relaxari ab impetu solis extremumque eius partem candentiae oppido quam tenui linea ad terram mittere splendorem et ita ex eo eam secundam vocari.*

The preference of certain writers for certain words is a familiar fact. Vitruvius' favorite is the somewhat cumbersome *quemadmodum*, which he uses in all one hundred and eighteen times.

I have grouped the examples as follows, beginning with the ordinary relative use of the word, where it introduces a clause: I. 4, 12

¹ Schmalz, Handb. d. Alt.-Wiss. II, p. 304.

item in Apulia oppidum Salpia vetus, quod Diomedes ab Troia rediens constituit sive quemadmodum nonnulli scripserunt Elpias Rhodius, in eiusmodi locis fuerat conlocatum e. q. s.; II. praef., 5 *itaque quemadmodum ab his sum institutus exponam*; 8, 20; 9, 13; III. 1, 7; 2, 2 (*bis*); *ib.* 11; 3, 3 (*bis*); IV. 3, 3; V. praef., 1; 9, 6; 12, 3; *ib.* 6; VI. 1, 2; 4, 6; 8, 1; VII. praef., 3; *ib.* 6; VIII. 3, 20; IX. 4, 12; *ib.* 14; X. 6, 12; 8, 3; 19, 7; *ib.* 8; 21, 1. Number of examples: 28.

In the following passages there is an adverb, or adverbial phrase, corresponding to *quemadmodum*, e.g. *ita*: I. 4, 8 *ergo si haec ita videntur quemadmodum proposuimus* e. q. s.; II. 6, 3 *videtur esse certum ab ignis vehementia e tofo terraque quemadmodum in fornacibus ex calce, ita ex his ereptum esse liquorem*; 8, 13; IV. 2, 4; 3, 6; V. 3, 3; 9, 4; 11, 2; X. 4, 5. Number of examples: 9. In these examples we have *sic*: II. praef., 3 *itaque quemadmodum formationem puto probandam sic iudico locum improbandum*; IV. 2, 5; *et quemadmodum mutuli cantheriorum proiecturae ferunt imaginem, sic in ionicis denticuli ex proiecturis asserum habent imitationem*; VII. praef., 4; *ib.* 17; 2, 2; 3, 9; IX. 9, 10; X. 8, 9; 11, 4. Number of examples: 9. In one instance we have *etiam*: IX. Praef. (2) *ea autem ratio quemadmodum in multis rebus et mensuris est utilis, etiam in aedificiis scalarum aedificationibus uti temperatas habeant graduum librationes est expedita*. In one, *item*: III. 1, 3 *non minus quemadmodum schema rotundationis in corpore efficitur, item quadrata designationis in ea invenietur*. *Eodem modo* occurs once: X. 15, 5 *namque quemadmodum vectis cum est longitudine pedum V, quod onus IIII hominibus extollit, id cum est X duobus elevat, eodem modo braccia quo longiora sunt mollius, quo breviora durius ducuntur*. *Eadem ratione* once: VI. 1, 11 *quemadmodum enim Iovis stella inter Martis ferventissimam et Saturni frigidissimam media currens temperatur, eadem ratione Italia inter septentrionalem meridianamque ab utraque parte mixtionibus temperatas et invictas habet laudes*.

Furthermore *quemadmodum* introduces an illustrative clause and means "for example": I. 1, 5 *quemadmodum si quis statuas marmoreas muliebres stolas, quae caryatides dicuntur pro columnis in opere statuerit et insuper mutulos et coronas conlocarent, percontantibus ita reddet rationem*; 6, 1 *quemadmodum in insula Lesbo oppi-*

dum Mytilene magnificenter est aedificatum et eleganter sed positum non prudenter; VI. 2, 2; IX. 4, 15; X. 8, 2; *ib.* 5. Number of examples: 6.

In the following examples *quemadmodum* introduces a single word or phrase with an *ellipsis* of the *verbal* idea: I. 1, 13 *non enim debet nec potest esse architectus grammaticus uti fuit Aristarchus, sed non agrammatos, nec musicus ut Aristoxenus, sed non amusos . . . nec plastes quemadmodum Myron seu Polyclitus*; 5, 3 *tum in crassitudine perpetuae taleae oleagineae ustilatae quam creberrimae instruantur, uti utraque muri frontes inter se, quemadmodum fibulis, his taleis conligatae aeternam habeant firmitatem*; *ib.* 7; II. 1, 6; 2, 4; 7, 3; III. 1, 3; (2), 3 (*bis*); 3, 3; VI. 11, 8; VII. 6; 11, 1; VIII. 7, 5; *ib.* 13; IX. 3, 15; 8, 2; 9, 11; X. 8, 7; 15, 3; 16, 2; 19, 7; 21, 1; *ib.* 6; 22, 6. No. of examples: 25. In two cases *ad eundem modum* corresponds to *quemadmodum*: IV. 6, 3 *sin autem ionico genere futura erunt, lumen altum ad eundem modum quemadmodum in doricis fieri videtur*; *ib.* 4 *hyperthyra autem ad eundem modum componantur quemadmodum in doricis, pro ratis partibus*. Once we have *sic*: VII. praef., 17 *id vero si marmoreum fuisset, ut haberet quemadmodum ab arte subtilitatem sic ab magnificentia et inpensis auctoritatem, in primis et summis operibus nominaretur*.

I conclude with the *interrogative* use of the word. It stands in this sense in thirty-three passages: I. 1, 14 *ergo si in singulis doctrinis singuli artifices neque omnes sed pauci aevo perpetuo nobilitatem vix sunt consecuti, quemadmodum potest architectus, . . . non id ipsum mirum et magnum facere ne quid ex his indigeat . . . ?* 6, 12; II. 1, 9 (*bis*); 6, 5; 9, 15; *ib.* 17; III. praef., 1; *ib.* 3; 2, 13; (5), 8; IV. 2, 1; 6, 6; V. 11, 1; 12, 7; VI. 1, 12; 8, 1; 9, 7; 10, 7; 11, 8 (*bis*); *ib.* 10; VIII. praef., 4; IX. praef., 4; 3, 18; 4, 13; X. 1, 5; 7, 1; 9, 1; 14, 7; 17, 9; 19, 1; 22, 1. *Quemadmodumcumque* stands once as an indefinite relative: IX. (6), 3 *de naturalibus autem rebus Thales Milesius, Anaxagoras Clazomenius . . . rationes, quibus eae res natura rerum gubernarentur, quemadmodum cumque effectus habeant excogitatas reliquerunt*.

The repetition in the apodosis of the word which in the protasis forms the conditional particle is a survival by way of correlation from the days of parataxis. Compare even in modern German: Schiller,

W. Tell, 198 (4, 3) *So du Gerechtigkeit von Himmel hoffest, so erzeig sie uns.*¹ Says Schmalz,² "Das mit deiktischem *ce* aus *si* entstandene *sic* korrespondiert mit *si* erst seit Horaz z. B. ep. 1, 7, 69 *sic ignovisse putato, si cenas hodie mecum* (ist aber vielleicht die ursprüngliche Konstruktion = "*so* du heute mit mir speisest, *so* darfst du glauben"). Vitruvius affords this instance: I. 2, 7 *naturalis autem decor sic erit, si primum omnibus templis saluberrimae regiones aquarumque fontes in his locis idonei eligentur in quibus fana constituantur, deinde* e. q. s.

The use of *ut* with the subjunctive in wishes, exhortations, and commands is especially interesting, as showing clearly the origin of its use in *final* clauses, which were originally paratactically expressed. This use of *ut* was practically confined to familiar discourse. For examples see Dahl, "Die Latein. Part. Ut," pp. 293-295, to which may be added: C. I. L. I. 196 *haice uti in coventionid exdeicatis ne minus trinum nundinum*. Vitruvius supplies these examples: I. 1, 3 *et ut litteratus sit, peritus graphidos, eruditus geometria, historias complures noverit, . . . astrologiam caelique rationes cognitatas habeat*; VIII. 7, 1 *si canalibus, ut structura fiat quam solidissima*.

In indirect questions originally the indicative was used, which gave place to the subjunctive, when the need of a more intimate connection of the two sentences was felt (Schmalz, Handb. d. Alt. Wiss. II., p. 316). The indicative survived in vulgar speech, and in Vitruvius we read: II. 6, 4 *relinquetur desideratio, quoniam item sunt in Etruria ex aqua calida crebri fontes, quid ita non etiam ibi nascitur pulvis, e quo eadem ratione sub aqua structura solidescat*; 8, 18 *quoniam ergo explicata ratio, est quid ita in urbe propter necessitatem angustiarum non patiuntur esse latericios parietes, cum extra urbem opus erit his uti, sine vitio ad vetustatem sic erit faciendum*; 9, 17 *insequitur animadversis quid ita quae in urbe supernas dicitur abies deterior est, quae infernas egregios in aedificiis ad diuturnitatem praestat usus*; IV. 2, 1; VII. 5, 4; IX. 3, 18; 4, 13; 5, 1.

¹ Vernaleken Deutsche Syntax, II., p. 423.

² Handb. d. klass. Altertums-Wiss. II., p. 357.

A rather uncommon use of the infinitive as predicate after *esse* is seen in this passage : II. 9, 15 *ea autem materies quemadmodum sit inventa est causa cognoscere.*

Putare in the sense of "intend" and taking a complementary infinitive stands once : II. 1, 8 *cum corpus architecturae scriberem, primo volumine putavi quibus eruditionibus et disciplinis esset ornata exponere finireque terminationibus eius species et e quibus esset nata dicere.*

THE SOCIAL AND DOMESTIC POSITION OF WOMEN IN ARISTOPHANES.

BY HERMAN W. HALEY.

THE object of this paper is to collect the passages in Aristophanes which bear upon the social and domestic position of women (except hetaerae) and to state briefly some of the inferences which may be drawn from them. Statements of other authors and generally received opinions are referred to only incidentally. The more important passages are quoted at length; the others are merely cited. Meineke's text has been used for the extant plays; Kock's, in his "Comicorum Atticorum Fragmenta," Vol. I., for the fragments.

The testimony of Aristophanes as to the life and manners of his time must not be accepted without important allowances. We must constantly ask to what extent the poet was influenced by the *wish to produce a comic effect*. It should also be kept in mind that he wrote chiefly — if not exclusively — for a *male* public, and that his fertile imagination sometimes conceived scenes and situations which had only the semblance of reality. Yet his unhesitating frankness and freedom of expression make him an extremely valuable authority; and he abounds in incidental touches and "side-lights" in which there can be no intentional misrepresentation.

POPULAR ESTIMATE OF WOMAN.

This question must be treated with special caution. It would not be safe, perhaps, to infer that any single passage in Aristophanes embodies the common estimate of women, or even the poet's own opinion about them; but the consensus of a large number of passages shows conclusively that in the time of Aristophanes the popular estimate of woman was a low one.

Women's Estimate of Themselves. Especially striking are the passages in which women are represented as *depreciating their own sex*. For example take Lys. 8-11:

Λ. ἄλλ' ὦ Καλονίκη κάομαι τὴν καρδίαν,
καὶ πόλλ' ὑπὲρ ἡμῶν τῶν γυναικῶν ἄχθομαι,
ὅτι παρὰ μὲν τοῖς ἀνδράσιν νενομισμένα
εἶναι πανούργοι, Κ. καὶ γὰρ ἐσμεν νῆ Δία.

Similar is Lys. 42-5 :

τί δ' ἂν γυναῖκες φρόνιμον ἐργασαίμεθα
ἢ λαμπρόν, αἱ καθήμεν' ἐξανθισμένοι,
κροκωτὰ φοροῦσαι καὶ κεκαλλωπισμένοι
καὶ κίμβερικ' ὀρθοστάδια καὶ περιβαρίδας ;

Cf. also Lys. 31 ; 137-9 ; 1124 ; Thesm. 371 ; 531-2.

Doubtless in writing thus Aristophanes was influenced by the fact that he was composing for a male audience. Women in real life would probably not have spoken so disparagingly of themselves. But surely he would not have used such language unless they were actually inclined to put a low estimate on their own sex. *A certain degree of verisimilitude is necessary to comic effect.*

Yet Aristophanes does not by any means represent women as altogether devoid of self-respect. The ladies in the *Thesmophoriazusae* (520 seqq.) show a very natural indignation after listening to the audacious speech of Mnesilochus, and afterwards make a very ingenious but somewhat whimsical defence of their sex (785 seqq.).

Men's Estimate of Women. There are not a few passages which express, or imply in general terms, a low opinion of women on the part of the men. The best examples are Lys. 8-11, already quoted, and Thesm. 786 seqq. :

καίτοι πᾶς τις τὸ γυναικεῖον φύλον κακὰ πόλλ' ἀγορεύει,
ὥς πᾶν ἐσμέν κακὸν ἀνθρώποις κἄξ' ἡμῶν ἐστὶν ἅπαντα,
ἔριδες νείκη στάσις ἀργαλία λύπη πόλεμος.

Cf. Lys. 261 ; 1014-15 ; 1037-9 ; Thesm. 737-8. Less definite are Av. 1639 ; Eq. 1056-7 ; perhaps Nub. 691-2.

Influence of Euripides. The plays of Euripides no doubt helped to form an unfavorable estimate of woman, though Aristophanes has much exaggerated their effect. In Thesm. 385 seqq. the severity of Euripides toward women and its supposed consequences are described at length. Cf. Ran. 1049-55 ; 1079-82 ; Lys. 283 ; 368-9 ; Thesm. 81-6 ; 378-9 ; 466-70 ; 544-8 ; 1160-70, and indeed the entire plot of the play.

The Popular Estimate as exemplified in Aristophanes. We may also draw some inferences as to the general estimation in which women were held from the light in which they are represented by Aristophanes himself. His plays reflect the sentiments of the public for which he wrote as well as his own personal tastes and feelings. He would never have treated women with such severity if he had not been sure that he would please his audience by so doing.

We find women frequently represented as fond of drink. Cf. *Lys.* 113-4; 195-239; 395; 465-6; *Thesm.* 347-8; 556-7; 630-1; 689-759, especially the amusing outburst at 735:

ὦ θερμόταται γυναῖκες, ὦ ποτίσταιαι
καὶ πάντ' ὑμεῖς μηχανώμεναι πίνειν.

Add *Eccl.* 44-5; 132-46; 153-5; 227; 1118-22; *Pl.* 644-6; 737; 972.¹ They are often spoken of or represented as licentious. Cf. *Ach.* 1058-60; *Nub.* 51-2; 1068-70; *Pax* 979-85; *Av.* 793-6; *Lys.* 23-5; 107-10; 125-147; 158-9; 212-5; 403-19; 705-60; *Thesm.* 340-5; 476-501; 558-9; *Eccl.* 7-10; 225; 228; 693-701; 877-1111; *Pl.* 959-1096. The passages where they use coarse language are exceedingly numerous. For instances of this, cf. *Lys.* 23-5; 59-60; 88-92; 107-10; 120 seqq.; 158-9; 227-32; 362-3; 715; 742-57; 771; 800; 825-8; 1112-21; *Eccl.* 256-7; 884-937. For their practice of deceiving their husbands with supposititious children, cf. *Thesm.* 339-40; 407-9; 502-16; 564-5. They are also represented as accomplished liars and deceivers. Cf. *Eccl.* 237-8; 528-46; *Thesm.* 483-5; 558-9. For their superstition, cf. *Lys.* 63-4; *Pl.* 688-93; *Thesm.* 534.

The fact that Aristophanes ventured to draw such a picture of the women of his time shows not only that their standard of morality was lower than that of the women of our day, but also that they were viewed harshly and unfavorably by men.

WOMEN NOT THE EQUALS AND CONFIDANTES OF THEIR HUSBANDS.

In the historic period the wife occupied a much lower position than in earlier times. She came to be regarded not as the peer and companion of her husband, but rather as the manager of his house-

¹ So *Eupolis* and *Euripides*: cf. *Nub.* 555; *Thesm.* 393.

hold, respected, it is true, in her own separate sphere, but playing no important part in his personal life.

Husband's Authority over the Wife. There are many passages in Aristophanes which illustrate the husband's authority over the wife. The best is Lys. 507-20, which is undoubtedly a picture from real life. The wife was obliged to bear in silence the misery caused by the war (verse 509); if she ventured to ask the simplest question about public matters, her husband roughly told her to hold her tongue (514-5); if she undertook to remonstrate with him about some unwise measure, he angrily bade her tend to her spinning or she would catch it (519-20). Strepsiades indeed seems to have been compelled to hint his wishes to his wife (Nub. 53-5); but, excepting such unusual cases, the husband might give his wife orders and expect to be obeyed. Cf. Ach. 262; Av. 665-6; Thesm. 790; Eccl. 335.¹ Passages like Pax 1329-31; Av. 1759-61; Lys. 873; 877-8; 883; 899; 904; 924 et al.; Eccl. 562-3 and the like, furnish less definite evidence, although they are spoken by a husband to his wife.

The husband could compel his wife to submit by physical force, sometimes by beating her. Cf. Lys. 160-2; 516; 519-20, and Frag. 10:

οὐκ ἐτός, ὦ γυναῖκες,
πᾶσι κακοῖσιν ἡμᾶς
φλῶσιν ἐκάστοθ' ἄνδρες.

The fear of being divorced was also an incentive to obedience on the part of wives. Cf. Lys. 157.

On the other hand, when a wife wished to gain an end from her husband, she either obtained it by flattery and little attentions (Vesp. 610-2; cf. Lys. 512), by making herself uncomfortable to him (Lys. 164-5; cf. Nub. 60-7), or by use of her personal attractions (Lys. 120-4; 149-54, cf. 46-8; 219-22; 551-4; 900-3; 931-2; 950-1, and indeed the whole plot of the play).

Exceptions. Other evidence of the husband's authority will be given in other connections. But there are a few apparent exceptions which require examination. In Nub. 60-7 we have an account of a wife's quarrel with her husband over the naming of their child, which lasted until the matter was settled by a compromise; but this

¹ Ach. 1003-6 are also in point if the γυναῖκες addressed are the wife and daughter of Dicaeopolis, as Merry supposes; but this is not proved.

was clearly a very unusual case. As we learn from 46 seqq., the wife was a haughty, luxurious dame from the city, belonging to the aristocratic and ancient family of the Alcmaeonidae; she therefore naturally despised her rustic husband, and treated him with an independence which most wives would not have dared to assume.

The behavior of Myrrhine to her husband (Lys. 872-951, especially 873, 893, 896, 900-904) is also exceptional. She is acting under the directions of Lysistrata (839-41), and according to the plan agreed upon. The whole scene is imaginary, and not taken from real life.

The same is true in part of the scene between Praxagora and Blepyrus (Eccl. 520-729, especially 520-49, 596). Praxagora has just succeeded in transferring the government of the state to the women, and has herself been chosen *στρατηγίς*; it is natural, therefore, for her to speak with unusual boldness. Besides, this very scene, when carefully studied, shows that in the ordinary state of affairs the man was master. Observe what questions Blepyrus puts to his wife about her absence, and his undisguised astonishment at her answers (520 seqq.).

Lack of Confidence between Husband and Wife. The evidence shows conclusively that there was a lack of confidence between husband and wife. It will be seen later that the wife could not leave the house without arousing her husband's suspicions. It is clear from Lys. 507-20 that men were generally unwilling to talk with their wives about public affairs. This reticence was perhaps to be expected. But it is a striking fact that there is no instance in Aristophanes of a husband confiding to his wife any important secret or asking her advice about any contemplated step. This lack of confidence often became actual suspicion. Frag. 187,

πάσαις γυναιξὶν ἐξ ἑνός γε τοῦ τρόπου
ὥσπερ παροψὶς μοιχὸς ἐσκενασμένος,

no doubt expressed exactly the belief of many Athenian husbands. Hence they took precautions like those described in Thesm. 395-404; 414-8; where, however, there is probably some comic exaggeration.

Lack of Conjugal Affection. Expressions of a husband's affection for his wife or of her love for him are noticeably rare in the Aris-

tophonic plays. Those which do occur, e.g. Lys. 99 seqq.; 710-80; 853-60; 865-71; 872; 885-8; 905; 918-9; 950, when taken in connection with the context point chiefly to *sensual* love. Passages like Ach. 132; Pax 1325; Av. 368; Pl. 249-51 prove only that the husband was interested in the wife as a member of his household, but show no strong personal affection. Cf. Ran. 586-8; Pl. 1103-6, where the wife is similarly mentioned as a part of the household. Nub. 1445 shows only the horror which a son's beating his own mother would naturally excite in the father's mind. (Cf. Ran. 149.) It does not imply that Strepsiades felt any strong love for his wife *as such*.

Evidences of Domestic Unhappiness. Passages which point to occasional domestic unhappiness are Nub. 41 seqq.; Lys. 260-1; Eccl. 323-6; Frag. 588, and the passages regarding adultery, which will be cited elsewhere. Ach. 816-7; Pax 1138; Thesm. 289-90 also suggest a lack of love and respect between husband and wife.

The evidence of Aristophanes confirms the usual view that conjugal affection was rare among the Athenians. Yet it is hard to believe that the poet who drew such a picture of home life as that in Pax 1127-58 did not see the brighter side of the marriage relation.

WOMEN NOT ALLOWED TO APPEAR IN PUBLIC BUT CONFINED TO THE HOUSE.

Athenian women were strictly excluded from public affairs. Cf. Av. 828-31; Lys. 492-610 (especially 499-500; 503; 507-29); 626-9; 649-51; Eccl. 110-310 (especially 110-20; 128; 132 seqq.; 240-44). Women of the better class were not even allowed to appear in public except on certain special occasions, and were not permitted to associate with men unless they were near relatives. As will be seen, women enjoyed a certain degree of liberty; but in general the words of Calonice (Lys. 16), *χαλεπή τοι γυναικῶν ἔξοδος*, were strictly true.

Restraint on Unmarried Women. Maidens were closely confined to the gynaeconitis, and were expected to behave quietly and demurely. Thus the women in Lys. 473-5 say:

ἐπεὶ θέλω ἔγω σωφρόνως ὥσπερ κόρη καθῆσθαι,
λυπούσα μηδὲν ἐνθαδὶ, κινούσα μηδὲ κάρφος.

It is noticeable that Aristophanes seldom represents young women as speaking. The girls of the Megarian in the *Acharnenses* and of Trygaeus in the *Pax* are children not fully grown. Eccl. 884-1042 is not to be taken into account, as the girl who appears there is an hetaera. Besides, this scene is supposed to occur after the women have become rulers of the state, and so have gained greater liberty. The daughter of Dicaeopolis speaks two verses (Ach. 245-6) when assisting at the celebration of the Rural Dionysia. These are the only cases in the extant plays where young women speak on the stage, if we except the goddess Iris, who speaks in Av. 1202 seqq. If we exclude slaves and members of choruses, the only other instances where young women appear on the stage are Pax 520-728; 819-910; 1316-57; Av. 1720 seqq. But *Opora*, *Theoria* and *Basileia* are not mortal women, and *Opora* and *Basileia* are brides accompanying their respective bridegrooms. Probably it was not easy for the poet to bring unmarried girls upon the stage, because in real life it was considered improper for them to be seen out of doors. Married women, old women and πόρναι appear more frequently.

Not only were girls confined to the house, but they were watched by their parents and even by their brothers (Thesm. 405-6). We may conclude from Lys. 593 that even unmarried women who had passed their prime were quite closely confined to the women's apartments.

Liberty of Unmarried Women on Religious Occasions. Yet maidens sometimes appeared in public on special occasions, particularly at certain festivals. Thus a girl of noble family, when between seven and eleven years of age, might be chosen one of the ἀρρηφόροι.¹ When ten years old, she might be one of the ἀλετριδες² who ground the meal for the sacrifice to Athena ἀρχηγέτις.³ At the Brauronia, which festival was celebrated every five years in the deme of Brauron

¹ On the Arrhephoria or Ersephoria, cf. Schol. on Lys. 642; Etymol. Mag. 149, 13; Harpocration s.v. ἀρρηφορέω; Pausanias I. 27, 3.

² Schol. on Lys. 643: γίνονται δέ τινες τῶν ἐν γεγονυιῶν ἀλετριδες τῇ θεῇ παρθένοι αἰτίνας τὰ εἰς τὴν θυσίαν πόπανα ἀλοῦσι, καὶ ἔστιν ἔντιμον τοῦτο. Cf. Eustathius 1885, 9.

³ The Schol. on Lys. 644 says that ἡ ἀρχηγέτις is Artemis or Demeter; but in Attic inscriptions the title is given to Athena. Cf. C. I. G. 476; 477; 2155; 666 (in addendis).

in honor of Artemis, chosen Athenian maidens between five and ten years old went in procession to the temple of the goddess, wearing saffron-colored robes, and there performed a propitiatory rite, imitating bears, whence they were called *ἄρκτοι*.¹ Young women also took part in religious processions (*πομπαί*) as canephoroi, carrying a basket (*κανοῦν*) containing sacred utensils or offerings. They were richly dressed and wore golden ornaments,² and sometimes carried a string of dried figs. These various functions are enumerated in Lys. 641-7:

ἐπὶ μὲν ἔτη γεγῶσ' εὐθὺς ἡρρηφόρου·
εἴτ' ἀλετρὶς ἢ δεκέτις οὖσα τάρχηγι·
κατ' ἔχουσα τὸν κροκωτὸν ἄρκτος ἢ βραυρωνίως·
κάκανηφόρου ποτ' οὖσα παῖς καλὴ ἔχουσ'
ισχάδων ὄρμαθόν.

The daughter of Dicaeopolis acts as *κανηφόρος* in the phallic procession when her father is celebrating the Rural Dionysia. Cf. Ach. 242-6; 253-60. There were canephoroi also in the sacred processions which went out to Eleusis in honor of Demeter. They were followed by attendants bearing sun-shades and stools.³ It is clear from Ran. 409-13 and 444-6 that there were girls as well as men and women among the *mystae* or persons initiated in the Eleusinian mysteries, and that they joined in the procession to the temple and took part in the *παννυχίς* which followed the arrival in Eleusis.⁴ We may perhaps infer from Thesm. 101-3 that maidens danced in honor of the *χθόνιαι θεαί*, Demeter and Persephone.

Liberty of Unmarried Women on Secular Occasions. Girls were sometimes brought into court by their parents to excite the compassion of the dicasts. Cf. Vesp. 568-73. They were not entirely excluded from the society of their own sex, as is clear from Eq. 1300-15, where the triremes are personified as a group of women talking together and a maiden (v. 1306) speaks. Compare also Nub. 530-1,

¹ Cf. Schol. on Lys. 645, and Suidas s.v. *ἄρκτος*.

² For their toilette, cf. Lys. 1188-94 and Schol. on 1195; also Eccl. 732.

³ Cf. Av. 1508, where the Schol. says: *σκιάδειον· κατασκεύασμά τι τὸ σκιάδειον, ὅπερ ἔχουσι αἱ κανηφόροι ἀπιῶσαι εἰς τὰ Ἐλευσίνια ὑπὲρ τοῦ μὴ καλεῖσθαι ὑπὸ τοῦ ἡλίου*; and 1550-52 with the Schol.: *ταῖς γὰρ κανηφόροις σκιάδειον καὶ δίφρον ἀκολουθεῖ τις ἔχουσα*.

⁴ Cf. Ran. 371, and Kock's note on 316 seqq.

where an unmarried girl exposes her child and another girl comes and takes it up. This passage is figurative, like the preceding, yet both no doubt contain a picture of real life. But in spite of these exceptions the restraint upon unmarried girls was clearly very strong.

Restraint upon Married Women. The question as to the degree of liberty enjoyed by married women is a more difficult one. The evidence of Aristophanes shows that it was much greater than some authorities would have us believe.

Among the higher class etiquette forbade a woman to pass the threshold of the house without some imperative reason for doing so. To stay at home was an element in *σωφροσύνη*,¹ the word which to the Attic mind represented the sum of all female virtues. Even the *μοιχευόμεναι γυναῖκες* merely peeped out of the front door and coquetted with the passers-by, drawing back if any one gave attention to them and peeping out again when he went away. Cf. Pax 979–85. The portress was liable to punishment if she opened the door secretly (Vesp. 768). Women of the better class did not like to be seen looking out of the window, as we learn from Thesm. 797–9 :

κἄν ἐκ θυρίδος παρακύπτωμεν, τὸ κακὸν ζητεῖτε θεᾶσθαι ·
κἄν αἰσχυνηθεῖσ' ἀναχωρήσῃ, πολὺ μᾶλλον πᾶς ἐπιθυμῇ
αὐθις τὸ κακὸν παρακύψαν ἰδεῖν.

The pressure of domestic duties rendered it hard for women to go out. Thus we read in Lys. 16–9 :

χαλεπή τοι γυναικῶν ἔξοδος.
ἡ μὲν γὰρ ἡμῶν περὶ τὸν ἄνδρ' ἐκύπτασεν,
ἡ δ' οἰκέτην ἡγειρεν, ἡ δὲ παιδίον
κατέκλινεν, ἡ δ' ἔλουσεν, ἡ δ' ἐψώμυσεν.

The difficulty was increased by the jealous care of their husbands. Cf. Thesm. 789–94 :

τί γαμειθ' ὑμεῖς, εἴπερ ἀληθῶς κακὸν ἔσμεν,
κάπαγορεύετε μήτ' ἐξελθεῖν μήτ' ἐκκύψασαν ἀλῶναι,
ἀλλ' οὕτωςι πολλῇ σπουδῇ τὸ κακὸν βούλεσθε φυλάττειν ;
κἄν ἐξέλθῃ τὸ γυναιὸν ποι, κἄθ' εὖρητ' αὐτὸ θύρασιν,
μανίας μαίνεσθ', οὗς χρὴν σπένδειν καὶ χαίρειν, εἴπερ ἀληθῶς
ἔνδοθεν ἤρρετε φροῦδον τὸ κακὸν καὶ μὴ κατελαμβάνετ' ἔνδον.

¹ Cf. Lys. 508.

Even the easy-going Blepyrus is vexed when his wife goes out without his knowledge (Eccl. 311-2; 323-6; 335-8), and questions her sharply on her return (520-50). The precautions which husbands sometimes adopted are described in Thesm. 414-7:

εἴτα διὰ τοῦτον ταῖς γυναικωνίτισιν
σφραγίδας ἐπιβάλλονσιν ἤδη καὶ μοχλοὺς
τηροῦντες ἡμᾶς, καὶ προσέτι μολοττικοὺς
τρέφουσι μορμολυκεῖα τοῖς μοιχοῖς κύνας.¹

When women left the house without permission (except in certain cases, to be mentioned hereafter), it was generally by stealth, without the knowledge of their husbands, and often under cover of the dark. Cf. Lys. 72; Thesm. 478-89; 792; Eccl. 33-51; 287-8 (cf. 478-503); 311-9; 323-6; 335-50; 510-3; 520 seqq.² If the husband awoke or detected his wife, she quieted him by some false excuse. Cf. Thesm. 483-5; Eccl. 520-51.

The house is frequently spoken of as the sphere in which the wife regularly lived and moved. Thus in Lys. 260-1 the old men say of the women:

γυναικας, ἃς ἐβόσκομεν
κατ' οἴκου ἐμφανὲς κακόν.

Cf. the women's oath (Lys. 217), οἵκοι δ' ἀταυρώτῃ διάξω τὸν βίον. Similar are Lys. 149; 510; 866, and passages which will be cited with reference to women's duties.³

It follows almost as a matter of course from what has been said that men, except near relatives, were excluded from the gynaecoonitis. We do not find any instance where men visit openly the wives of other men,⁴ or enter the women's apartment of any house except

¹ But Göll (Charikles, Vol. III. p. 332) is no doubt right in supposing that there is a good deal of comic exaggeration in this passage. Such precautions could not have been usual, or even common.

² The women in the Ecclesiazusae had, of course, an additional motive for secrecy because they ventured to attend the ecclesia at great risk of punishment from the state.

³ Women of the better class are never mentioned as present at the men's banquets or symposia. Pl. 613-5 simply refers to sumptuous living, not to the banquets of the men. But hetaerae, dancing-girls, etc., were frequently present at the men's feasts. Cf. Ach. 1091-3; Vesp. 1342 seqq.; Ran. 513-5 et al.

⁴ Very curious is Frag. 451:

γυναικα δὴ ζητοῦντες ἐνθάδ' ἤκομεν,
ἦν φασιν εἶναι παρὰ σέ.

their own. Even such a case as Pl. 249-51, where Chremylus invites the god in to see his wife and children, is clearly exceptional. The wife while busy about her household duties must sometimes have seen men who came to visit her husband and have heard them talk, but only incidentally. It was perhaps in this way that women gained some knowledge of public matters. Cf. Lys. 510-1; 517; cf. 1126; Eccl. 137-43.

Liberty of Married Women on Religious Occasions. Married women attended and took part in numerous festivals, and on such occasions enjoyed considerable freedom.

The most important of the women's festivals was the Thesmophoria.¹ This was celebrated entirely by women, men being carefully excluded. Cf. Thesm. 91-2; 184-92; 204-5; 575-687, and indeed the entire plot of the play. If a man was caught intruding, he was severely punished. Cf. Thesm. 930-44; 1001 seqq. Slaves (Thesm. 293-4) and unmarried women (cf. 619) were not admitted. The restraint upon women was much relaxed during the Thesmophoria; but the assembly and debate of the women in the Thesmophorizusae are purely an invention of the poet. They lived in tents or booths during a part of the festival (Thesm. 658; 796), and had tent-mates (624). They sometimes became tired and fell asleep in others' quarters, and then their husbands went about among the tents and searched for them (Thesm. 795-6). The crowd of women assembled at the festival was very large (Thesm. 280-1).

Women were also admitted to the Eleusinian mysteries (Ran. 157; 444), and some of them rode on wagons in the great procession to Eleusis (Pl. 1013). Another festival in which women took part was the Scira, celebrated in Pyanepsion in honor of Athena Sciras (Eccl. 18; 59). Wives of men prominent in the state had the privilege of

It is the only extant fragment of the *Πολησις*. We may suppose either that the goddess *Πολησις* had been taken away, like *Ειρήνη* in the Pax, and that the speaker and his companions had come in search of her: or possibly Aristophanes represented *Πολησις* as his own wife, who had strayed away from home and for whom he was searching when he spoke the words in the fragment. Cf. Thesm. 795-6. It is well known that in the *Πυρρίνη* Cratinus personified *Κωμῳδία* as his own wife. Cf. Schol. on Eq. 400. Either of these hypotheses would account for the unusual situation in the fragment.

¹ For a full account of this festival, vid. Schömann, *Griechische Alterthümer*, Vol. II. p. 482 (3d edition).

occupying front seats at this festival and at the Stenia.¹ Cf. Thesm. 834 seqq. Married women were present, at least as spectators, at the Rural Dionysia. Cf. Ach. 245-6; 262. Women took part in the Panathenaic festival, and the wives of metics acted as *διδραφόροι* and *ὑδριαφόροι* in the procession. Cf. Eccl. 734; 738.

Besides these great festivals there were many less important feasts and ceremonies in which women took part. They celebrated noisy orgies in honor of Pan.² They had a special cult of Aphrodite at the promontory of Colias where women of loose character resorted.³ They worshipped the same goddess with lascivious rites under the name of Genetyllis.⁴ They also celebrated the Adonia, a festival which began with mourning over the death of Adonis and ended with noisy rejoicings over his return to life. It was a time of great license, as is clear from Lys. 389-97. The festival is also mentioned in Pax 420. Attic women did not at home engage⁵ in wild Bacchic orgies such as are referred to in Nub. 603-6 and Lys. 1284; but it may be inferred from Lys. 1⁶ and 388 that they had separate feasts of their own in honor of Bacchus. They used drums (*τύμπανα*) in the worship of Bacchus and Cybele (Lys. 3; 388). Women visited the shrine of Aesculapius (Pl. 674; 688-93). A woman sometimes held a private feast in honor of Hecate and invited her female friends (Lys. 700-3). In Lys. 63-4 a woman is mentioned as having inquired at the shrine of Hecate, which probably stood not far from the door (cf. Vesp. 805). A woman comes bringing *καταχύσματα* to pour over Plutus in honor of his recovering his eyesight (Pl. 768 seqq.). An old woman walks in a procession carrying the pots with which the statue of Plutus is to be consecrated (Pl. 1197-1207).

Attendance of Women at the Theatre. Aristophanes supplies considerable evidence that Athenian women sometimes attended the

¹ The Schol. on Thesm. 834 regards the Stenia as a festival distinct from the Thesmophoria.

² Lys. 2 and Schol.

³ Lys. 2 and Schol. Cf. Nub. 52.

⁴ Lys. 2 and Schol.; Nub. 52; Thesm. 130.

⁵ Cf. Schömann, Vol. II. p. 503.

⁶ The Schol. on this verse observes: *καὶ γὰρ πολλὰς ἑορτὰς αἱ γυναῖκες ἔξω τῶν δημοτελῶν ἦγον ἰδίᾳ συνερχόμεναι.*

theatre. It is not certain just how much importance ought to be attached to Frag. 472,

λήκυθον
τὴν ἑπτακότυλον, τὴν χυτρεᾶν, τὴν ἀγκύλην,
ἣν ἐφερόμην, ἣν ἔχοιμι συνθεάτριαν,

for we have not the context. More satisfactory is Ran. 1049 seqq., which shows that women were present at tragedies :

Ε. καὶ τί βλάπτουσ' ὧ σκέτλι' ἀνδρῶν τὴν πόλιν ἅμαὶ Σθενέβοιαι;
Α. ὅτι γενναίας καὶ γενναίων ἀνδρῶν ἀλόχους ἀνέπεισας
κῶνεια πιεῖν αἰσχυνθείσας διὰ τοὺς σοὺς Βελλεροφόντας.

We cannot suppose that the plays of Euripides would have produced such a powerful effect upon the minds of the women if they had not witnessed them in person.¹ But the attendance of women at the presentation of tragedies was not invariable, as is clear from Thesm. 395 seqq., where the husbands are said to come home and view their wives with suspicion and search the house for concealed adulterers after hearing the plays of Euripides. Whether women were present also when comedies were performed is more doubtful. The evidence of Aristophanes seems to be against the supposition. There are two passages which appear to point to the absence of women when the Aristophanic plays were represented. In Av. 793-6 we read :

εἴ τε μοιχείων τις ὑμῶν ἐστὶν ὅστις τυγχάνει,
καθ' ὁρᾷ τὸν ἄνδρα τῆς γυναίκος ἐν βουλευτικῷ,
οὗτος ἂν πάλιν παρ' ὑμῶν πτερυγίσας ἀνέπτετο
εἶτα βινήσας ἐκείθεν αὖθις αὖ καθέζετο.

This clearly implies that women of the higher classes were not present in the audience. Add Pax 962-7 :

Τ. καὶ τοῖς θεαταῖς ῥίπτε τῶν κριθῶν. Ο. ἰδοῦ.
Τ. ἔδωκας ἤδη; Ο. νῆ τὸν Ἑρμῆν ὥστε γε
τούτων ὅσοιπέρ εἰσι τῶν θεωμένων
οὐκ ἔστιν οὐδεὶς ὅστις οὐ κριθὴν ἔχει.
Τ. οὐχ αἱ γυναῖκες γ' ἔλαβον. Ο. ἀλλ' εἰς ἐσπέραν
δώσουσιν αὐταῖς ἄνδρες.

Some, like Benndorf, have inferred from this passage that the women sat in the theatre at a considerable distance from the stage. But it clearly implies that there were no women among the θεώμενοι. The

¹ Cf. the Schol. on Eccl. 22: ὁ δὲ Σφυρόμαχος ψήφισμα εἰσηγήσατο ὥστε τὰς γυναῖκας καὶ τοὺς ἄνδρας χωρὶς καθέζεσθαι καὶ τὰς ἑταίρας χωρὶς τῶν ἐλευθέρων.

women are mentioned simply to give opportunity for a low joke turning on the double meaning of the word *κριθή*.

There are other facts which tend to confirm this view. It is noteworthy that in several passages men and children are mentioned as constituting the audience, but never women. Cf. Pax 50-2 :

ἐγὼ δὲ τὸν λόγον γε τοῖσι παιδίοις
καὶ τοῖσιν ἀνδράσι καὶ τοῖς ἀνδράσιν
καὶ τοῖς ὑπερτάτοισιν ἀνδράσιν φράσω.

Cf. also Eccl. 1146, *καλεῖς γέροντα μεράκιον παιδίσκον*, Nub. 539-40 and Pax 766. The audience are never addressed as women but only as men.

Lys. 1049-50 has been twisted into a supposed proof that there were women in the audience ; but the words mean simply, "Let every man and woman" (*i.e.* in the *chorus*, which is now composed of both sexes) "make the proclamation." On the other hand, the address of the chorus of women to the *men* in Thesm. 785 seqq. is apparently to the audience as a whole. Rau. 1113-4, where it is said of the audience :

ἑστρατευμένοι γάρ εἰσι,
βιβλίον τ' ἔχων ἕκαστος μανθάνει τὰ δεξιά,

cannot be meant to include women.

It is noticeable that there are no personal jests on women which *point them out* as present among the spectators ; no *deictic* jests as we might call them, such as Pax 883-5 ; Pl. 800 ; Nub. 1099-1101, and the like. Another fact which is often overlooked is the strongly political character of many of the comedies. The parabases especially often contain political addresses and arguments. Now as women were carefully excluded from participation in, and even from knowledge of, public affairs, it does not seem probable that plays so strongly political were intended for an audience of which they formed a part. The evidence of Aristophanes, though not decisive, appears then, on the whole, to justify the conclusion that women were present at the performance of tragedies but not of comedies.

Marriage and Burial. Women enjoyed a considerable degree of freedom in connexion with the various ceremonies of marriage. Frag. 142,

ἀποπλευστέ' οὖν ἐπὶ τὸν νυμφίον, ᾧ γαμοῦμαι
τῇμερον,

is spoken by a bride to a former admirer on her marriage-day. Unfortunately the context is lost, so that we cannot tell how the scene was motivated. In Ach. 1056 seqq. the bridesmaid (νυμφεύτρια) brings a message from the bride to Dicaeopolis. In marriage processions the bride rode in a carriage with the bridegroom¹; she was dressed in costly attire,² wore a chaplet,³ and was perfumed.⁴ No doubt other women beside the bride were present at the marriage-feast in Pax 1305 seqq., and formed part of the marriage processions in Pax 1316 seqq. and Av. 1721 seqq.; but we have no *direct* evidence of this in the text.⁵

Women had also their part in the ceremonies of burial. Thus a woman kneaded the honey-cake which was given to the dead. Cf. Lys. 601. Women attended to the laying out of the body (πρόθεσις). Thus Lysistrata says to the πρόβουλος (Lys. 611): μὴν ἐγκαλῆς ὅτι οὐχὶ προϋθέμεσθά σε; The process is described in Eccl. 1030 seqq., where the young man says to the old woman:

ὑποστόρεσαί νυν πρῶτα τῆς ὀριγάνου,
καὶ κλήμαθ' ὑπόθου συγκλάσασα τέτταρα,
καὶ ταινίωσαι καὶ παράθου τὰς ληκύθους,
ὑδατός τε κατὰθου τοῦστρακον πρὸ τῆς θύρας.

Cf. Eccl. 536–8, where Blepyrus says to Praxagora:

ἀλλ' ἔμ' ἀποδύσας' ἐπιβαλοῦσα τοῦγκυκλον
ῥῆχον καταλιποῦς' ὥσπερὶ προκείμενον,
μόνον οὐ στεφανώσας' οὐδ' ἐπιθεῖσα λήκυθον.

Women seem to have prepared the sacrificial meal which was offered on the third day. Cf. Lys. 612–3, where Lysistrata says:

ἀλλ' ἐς τρίτην γοῦν ἡμέραν σοὶ πρὸ πάντων
ἤξει παρ' ἡμῶν τὰ τρίτ' ἐπεσκευασμένα.

Liberty of Women on Secular Occasions. There was a numerous class of women at Athens who, though genuine ἀσταί, were compelled

¹ Cf. Schol. on Av. 1737 and on Pax 1340.

² Pl. 530 and Schol.

³ Cf. Schol. on Pax 869 and on Av. 160.

⁴ Cf. Pl. 529.

⁵ Av. 1731 seqq. is called by the scholiast an epithalamium, such as was sung by maidens before the door of the thalamos. Women must be included in the appeal in Pax 1317, (χρῆ) πάντα λεῶν συγχαίρειν κάπιχορεύειν.

by poverty to go abroad and ply a trade for support. Such were many of the *ἀρτοπώλιδες* (Vesp. 1387 seqq.; Lys. 457; Ran. 858; cf. Vesp. 238); the *μυροπώλιδες* (Eccl. 841); the *στεφανοπώλιδες* (Thesm. 446); the *λεκιθοπώλιδες* (Lys. 457; 562; Pl. 427); the *ἰσχαδοπώλιδες* (Lys. 564); the *λαχανοπώλιδες* (Vesp. 497; Thesm. 387; Lys. 456); the *σκοροδοπώλιδες* (cf. the humorous compound in Lys. 457); the *καπηλίδες* (Pl. 435; 1120; Thesm. 347); the *προμνήστριαι* (Nub. 41); the *μαῖαι* (Lys. 746); the *τιτθαί* (Eq. 715 seqq.; Thesm. 609; Lys. 958); the *μαστροποί* (Thesm. 558; cf. 1172 seqq.); the *πανδοκεύτριαι* (Pl. 426; Ran. 114; Lys. 458), and perhaps the *συκοφάντριαι* (Pl. 970). They are represented as appearing in public in several of the plays. Thus in Vesp. 1387-1414 an *ἀρτοπώλις* comes to serve a summons on Philocleon for damage done to the bread in her stall, and takes Chaerephon for her *κλητήρ*. In Thesm. 446 seqq. the *στεφανόπωλις*¹ says:

ἐμοὶ γὰρ ἀνὴρ ἀπέθανεν μὲν ἐν Κύπρῳ
 παιδάρια πέντε καταλιπών, ἀγὼ μάλιστα
 στεφανηπλοκοῦσ' ἐβοσκον ἐν ταῖς μυρρίναις.
 τέως μὲν οὖν ἀλλ' ἡμικακῶς ἐβοσκόμην·
 νῦν δ' οὗτος ἐν ταῖσιν τραγυδαῖς ποιῶν
 τοὺς ἀνδρας ἀναπέπεικεν οὐκ εἶναι θεοὺς·
 ὥστ' οὐκέτ' ἐμπολῶμεν οὐδὲ θῆμυσιν. . . .
 ἀλλ' εἰς ἀγορὰν ἄπειμι· δεῖ γὰρ ἀνδράσιν
 πλέξαι στεφάνους συνθηματιαίους εἴκοσιν.

Cf. also the two *πανδοκεύτριαι* in Ran. 549-78 (who are, however, metics, as is clear from 569); and Vesp. 497. Women of this class are not very favorably represented by Aristophanes. They are a stout and sturdy set (Lys. 456-60), excel in abuse and "rail like fisherwomen" (Lys. 460; Ran. 857-8; Pl. 426-8; cf. Vesp. 1396 seqq. and Ran. 571-8), are fond of cheating, especially the *καπηλίδες* (Pl. 435-6; cf. Thesm. 347-8 and Eccl. 153-5), and the occupations of some of them, e.g. the *λαχανοπώλιδες* (Ach. 478; Eq. 19; Ran. 840; 947; Thesm. 387; 455-6; 910), are considered degrading. In Ran. 1349-51 a woman of the poorer class is described as spinning a skein of linen thread in order to carry it early in the morning to the

¹ The Schol. on Pax 535 says: καὶ πάλιν εἰρήνης οὐσης αἱ γυναῖκες ἀδείως εἰς τοὺς ἀγροὺς ἐξέρχονται καὶ ἀνθολογοῦσιν. This no doubt applies chiefly to *στεφανοπώλιδες* and the like,

agora to sell it. The women of the poorer classes also went to the spring for water. The scene is vividly described in *Lys.* 327 seqq. :

νῦν δὴ γὰρ ἐμπλησμένη τὴν ὑδρίαν κνεφαΐα
 μόλις ἀπὸ κρήνης ὑπ' ὄχλου καὶ βορύβου καὶ πατάγου χυτρείον
 δούλησιν ὥστιζομένη
 στιγματίαις θ', ἀρπαλέως
 δραμένη ταῖσιν ἐμαῖς
 δημότισιν καομέναις
 φέρονσ' ὕδωρ βοηθῶ.

In *Ran.* 1361 seqq. a woman is represented as going to search a neighbor's house for stolen property.

Women of all classes seem to have been permitted to associate quite freely with persons of their own sex. Scenes like *Lys.* 5 seqq., where *Lysistrata* and her neighbor *Calonice* come out and converse, cannot have been uncommon. In *Eq.* 1300 seqq. the triremes are personified as a group of women conversing. Women lend to one another *μόνας μόνας* (*Eccl.* 446-9) ; they invite their female friends to a lunch, sometimes without their husband's permission (*Eccl.* 348-9, where this is spoken of as a very natural thing ; cf. *Lys.* 700-4), and go out to assist women in child-bed (*Eccl.* 528 seqq.). Passages like *Lys.* 13 and 1007, though they relate to an imaginary occurrence, nevertheless imply considerable freedom of communication among the women of Greece ; otherwise they would be absurd and meaningless.

Women were of course obliged to have some dealings with the family slaves. This liberty was often abused (*Thesm.* 491 ; *Frag.* 695). Slaves¹ were used as a means of communication. Cf. *Thesm.* 340-42. From them also, their mistresses procured information about what was going on. Cf. *Pl.* 644-770, where the lady listens to the story of the slave *Carion*.

The Athenian man spent a great deal of his time away from home ; and this gave some married women an opportunity to receive lovers into the house secretly. The precautions mentioned in *Thesm.* 414-7 were not always employed, or they proved unsuccessful. Cf. *Av.* 793-6 ; *Thesm.* 395-7 ; 491-6 ; *Eccl.* 225. Even

¹ There were also pimps (*μαστροποι*) who acted as go-betweens. Cf. *Thesm.* 558-9.

when the husband was at home,¹ the wife sometimes contrived to slip out to her paramour without being detected (Thesm. 479-89; cf. Eccl. 522-6). If the husband came home unexpectedly, she enabled her lover to escape by tricks like that described in Thesm. 499-501. It would appear from Lys. 403-20 that the men sometimes connived at their wives' receiving lovers at home and even aided them to do so. Women knew also how to take advantage of their husbands' absence for other purposes. Cf. Eccl. 62-4.

Pax 1144-5 shows that in the country, where the bounds of etiquette were less strictly defined than in the city, a man might occasionally say a few words to a neighbor's wife without fear of offending her husband.

The old women seem to have enjoyed much more freedom than the younger ones. It is noteworthy that they do much speaking in the plays, e.g. Lys. 797-800; 821-8; Thesm. 852-935 (cf. 896); Eccl. 877-1097. Especially striking is Pl. 959-1094, which is probably true to real life. The old woman comes to the house of a man who is not her husband, and is on the point of calling some one out (964) when Chremylus himself comes out, whereupon she converses with him for some time. She has a young lover² (975 seqq.) and sends him presents³ and messages (995-6), goes to see him evenings (997-8), and receives visits from him (1046;

¹ Probably Frag. 18:

A. γύναι, τί τὸ ψοφῆσαν ἐσθ'; B. ἀλεκτρυνὼν
τὴν κύλικα καταβέβληκεν. A. οἰμώζουσά γε,

refers to a situation of this kind. The lover comes and taps at the door, or possibly makes a noise somewhere in the house. The husband hears it, and asks his wife what it is that made the noise. She is ready with the usual lie, and answers that it was the hen. The husband, having perhaps an inkling of the truth, responds οἰμώζουσά γε. This would make a very comic situation. Cobet supposed that the husband heard a noise and sent his wife to see what was the cause of it, and that on her return he asked her, γύναι, τί τὸ ψοφῆσαν ἐσθ'. Kock agrees with him, and thinks that this view is proved by the word ψοφῆσαν. But this is not necessarily the case, for the *aorist* participle simply shows that the noise had ceased before the question was asked. The husband listens a moment, and then questions his wife. The fragment strikingly resembles Thesm. 479-85.

² The vice here satirized prevailed even in the time of Solon. Cf. Plutarch Solon, 20 ad fin.

³ Cf. Thesm. 345; perhaps Frag. 25.

1201). Old women of the lower class (the *γραῖδια κολοσυρτοῦ*, Pl. 536) sometimes took advantage of their liberty to ply the trade of procuresses. Cf. Thesm. 558; and also 1160 seqq., in which scene Euripides outwits the Scythian by disguising himself as an old woman of this sort.

DOMESTIC DUTIES OF WOMEN.

The Wife Mistress and Stewardess of the House. The wife stood next in authority to her husband in the home, and within her own sphere she was mistress and head. In Lys. 894-5 Cinesias admits his wife's joint ownership with him in the household property by saying :

τὰ δ' ἐνδον ὄντα τὰμὰ καὶ σὰ χρήματα
χείρον διατιθεῖς.

The lady of the house gave her own orders to the servants. Cf. Ran. 1338-9; Thesm. 279; 280; 284-5; 293 (where Mnesilochus is imitating a woman). She waked them in the morning (Lys. 18), and sat by and kept them busy at their work (Pl. 533). This supervision was of course chiefly exercised over the female slaves.

The wife was the stewardess of the household and kept the keys of the storerooms. The words *ἐπίτροπος* and *ταμεινέειν* are used of her in this connexion. Thus Lysistrata asks (Lys. 495) :

οὐ καὶ τᾶνδον χρήματα πάντως ἡμεῖς ταμεινόμεν ὑμῖν;

In Thesm. 418-20 a woman complains :

ἃ δ' ἦν ἡμῖν πρὸ τοῦ
αὐταῖς ταμεινῶσαι καὶ προαιρούσαις λαθεῖν
ἄλφιτον ἔλαιον οἶνον, οὐδὲ ταῦτ' ἔτι
ἕξεστιν.

In Eccl. 210-2 Praxagora argues thus :

ταῖς γὰρ γυναῖξί φημι χρῆναι τὴν πόλιν
ἡμᾶς παραδοῦναι. καὶ γὰρ ἐν ταῖς οἰκίαις
ταύταις ἐπιτρόποις καὶ ταμίαισι χρώμεθα.

Cf. Pax 1144, where a man tells a housewife to bring out and prepare some food. The women sometimes took advantage of their access to the storerooms to help themselves secretly to provisions, especially wine. Cf. Eccl. 14-5; Thesm. 418-20; 556-9; 812-3. To prevent this the men sometimes kept the keys themselves and

even sealed¹ the doors of the storerooms (Thesm. 421 seqq.). But as it was easy for the women to obtain fac-similes of ordinary seals, their husbands were obliged to use those of a very intricate pattern, which were hard to counterfeit (Thesm. 424-8). There were some husbands who looked very sharply after household affairs and did not leave them to their wives, as appears from Ran. 980-8. But both this passage and the one cited just before it probably contain a good deal of exaggeration. In both passages the increased caution of the husbands is attributed to the influence of Euripides.

Care of Children. The children remained under the care of their mothers during the first years of their life, the boys until old enough to begin their studies at school, the girls until their marriage. Often, however, children were placed under the care of nurses (*τιτθαί*). Cf. Eq. 715-8; Thesm. 609; Lys. 958. This was the usual custom among the well-to-do classes. But in some cases the mother cared for the child herself, gave it the breast (Lys. 881; Thesm. 691) or fed it with morsels (*ψωμίζων*, Lys. 19; Thesm. 692; cf. Eq. 715-8. for the process), bathed it (Lys. 19; 881) and put it to bed (Lys. 19). It is noteworthy that the father sometimes gave the child the care which we should expect from the mother. Cf. Nub. 1380-5. Probably high-born dames like the wife of Strepsiades thought it beneath their dignity to take care of their children themselves. They sometimes petted and spoiled their sons. Cf. Nub. 68-70, where the mother is described as petting her son and fostering his aristocratic tendencies. We may remark in passing that Greek children seem to have felt a high degree of affection and respect for their mother, while to ill-treat her in any way was considered a crime of peculiar heinousness. Cf. the proverb in Ach. 730; also Nub. 1444 seqq.; Ran. 149.

Cooking. In general the mistress of the house did not do the cooking herself, but the female slaves did it under her superintendence. "Chefs" were rare until a comparatively late period. We must not suppose, however, that the housewife was idle during the preparation of the meal, and no doubt she sometimes assisted in person in cooking the food. In Ach. 1003-6 Dicaeopolis, who is in great haste, exclaims:

¹ For this use of seals, cf. Lys. 1195-1201.

ὦ παῖδες ὦ γυναῖκες οὐκ ἠκούσατε ;
 ἀναβράττετ' ἐξοπτᾶτε τρέπετ' ἀφέλκετε
 τὰ λαγῶα ταχέως, τοὺς στεφάνους ἀνείρετε.

Some commentators, e.g. Merry, suppose that ὦ παῖδες is addressed to the servants and ὦ γυναῖκες to the wife and daughter of Dicaeopolis. But it is not certain that γυναῖκες in this passage implies any more respect or affection than παῖδες, and the word may refer merely to the *female servants*. Even if Merry is right, it is possible that only the *last part* of the command, τοὺς στεφάνους ἀνείρετε, was intended for the γυναῖκες. Ran. 504-11 proves nothing, for the goddess would not do the cooking herself, except in the sense that "*qui facit per alium facit per se*." Baking bread (verse 505) was especially a thing which she would not be likely to do in person. Eq. 1168 seqq. is mere burlesque. But in Pax 1144-5, which describes a *rustic* scene, the farmer tells his neighbor's wife :

ἀλλ' ἄφευε τῶν φασήλων ὦ γύναι τρεῖς χοίνικας,
 τῶν τε πυρῶν μῆζον αὐτοῖς τῶν τε σύκων ἔξελε.

In Eccl. 221-3, we are told that women καθήμεναι φρύγουσιν and πέττονται τοὺς πλακοῦντας as of old. Cf. Eccl. 845, which, however, describes the preparations for a feast under the new order of things.¹ There were women who made a business of cooking and selling certain kinds of victuals, e.g. the ἀρτοποιίδες and λεκιθοπώλιδες ; but these belonged to the lower classes.

Preparation of Wool. The manufacture of clothing from wool was one of the most important of women's functions. In Lys. 574 seqq. is given a very complete picture of all the processes which the wool passed through in its change from the raw fleece to the completed garment :

πρῶτον μὲν ἐχρῆν, ὥσπερ πόκου ἐν βαλανείῳ
 ἐκπλύναντας τὴν οἰσπώτην, ἐκ τῆς πόλεως ἐπὶ κλίνῃς
 ἐκραβδίξιν τοὺς μοχθηροὺς καὶ τοὺς τριβόλους ἀπολέξαι,
 καὶ τοὺς γε συνισταμένους τούτους καὶ τοὺς πιλοῦντας ἑαυτοὺς
 ἐπὶ ταῖς ἀρχαῖσι διαξῆναι καὶ τὰς κεφαλὰς ἀποτῖλαι
 εἰτα ξαίνειν ἐς καλαθίσκον κοινὴν εὐνοίαν ἅπαντας,

¹ Cf. also Vesp. 610, where the wife brings her husband a barley-cake in order to wheedle him out of his three obols. Women's *breaking dishes* is mentioned in Thesm. 401-2; cf. Vesp. 1435.

καταμυγνύντας τοὺς τε μετοίκους κεί τις ξένος ἢ φίλος ὑμῶν,
 κεί τις ὀφείλῃ τῷ δημοσίῳ καὶ τούτους ἐγκαταμῖξαι·
 καὶ νῆ Δία τὰς γε πόλεις, ὅποσαι τῆς γῆς τῆσδ' εἰσὶν ἄποικοι,
 διαγιγνώσκειν ὅτι ταῦθ' ἡμῖν ὥσπερ τὰ κατάγματα κείται
 χωρὶς ἕκαστον· κἄτ' ἀπὸ τούτων πάντων τὸ κάταγμα λαβόντας
 δεῦρο ξυνάγειν καὶ συναθροίζειν εἰς ἓν, κἄπειτα ποιῆσαι
 τολύπην μεγάλην κἄτ' ἐκ ταύτης τῷ δήμῳ χλαῖναν ὑφῆναι.

The different stages of the manufacture seem to have been as follows. First the fleece was washed (ἐκπλύνειν) in the washing-house (βαλανεῖον) to cleanse it from filth (οἰσπώτη).¹ In this operation hot water was used. Cf. Eccl. 215-7:

πρῶτα μὲν γὰρ τᾶρια
 βάπτουσι ² θερμῷ κατὰ τὸν ἀρχαῖον νόμον
 ἀπαξάσασαι.

The fleece was next spread³ on the bench or table (κλίνη) and beaten with rods (βαβδίζειν) to free it from impurities clinging to the hairs, and the burrs (τριβόλοι) were picked out. The matted portions⁴ of the wool were then separated (διαφαίνειν), and the ends of the hairs were plucked clean (τὰς κεφαλὰς ἀποτῖλαι). This last phrase may refer to the process of pulling off matted balls of hair, grease, etc., which clung to ends of the hairs and were not sufficiently removed by mere washing and beating. These balls would resemble *heads* in

¹ Schol. on Lys. 575: τοῦ ἐρίου ὁ ῥύπος οἰσπώτη λέγεται. Wool uncleansed and with the grease still in it was said to be οἰσπῆρὸν (Ach. 1177).

² This word may also mean *dye*, and one might be tempted to take it in that sense; but the Schol. explains it by πλύνουσι. Besides, dyeing was more frequently done by men (βαφεῖς) than by women. Thus in Lys. 51 Calonice says βάψομαι, not βάψω.

³ There is perhaps an allusion to this part of the process in Lys. 732, where the woman says that she will return διαπετάσας ἐπὶ τῆς κλίνης μόνον, i.e. after spreading out the wool on the table to dry in readiness for beating. Cf. Nub. 343: εἴξασιν δ' οὖν ἐρίοισιν πεπταμένοισιν. The sight of wool spread out on the κλίνη must have been a familiar one. Wool was liable to be damaged by cocks if the women left it lying unwatched (Lys. 896); also by moths (Lys. 729-30, from which passage it also appears that Milesian wool was especially prized). Other passages relating to wool are Av. 714, where the spring shearing is mentioned (cf. Lys. 685, where πεκτεῖσθαι is used metaphorically); also Ran. 1386-7, where the tricks of wool-sellers are described.

⁴ Schol. on Lys. 578: τῶν γὰρ ἐρίων οἱ μαλλοὶ ἔχουσι τὰς κορυφὰς πεπιλημένas καὶ ἐπὰν τιλθῶσι διαλύεται ὁ μαλλός; also τὰς κεφαλὰς· ὡς τὰ ἔκτρα τῶν ἐρίων.

shape. Such may often be seen on uncleansed fleeces at the present day. Next came the carding (ξάινειν), to which there are frequent references. Cf. Eccl. 82-91; Lys. 535-6; 579; Frag. 717.¹ The wool was carded into a basket called *καλαθίσκος*. Cf. Lys. 579; 535; Thesm. 822. Both the washing and the carding² were generally done by servants; but poor women no doubt prepared their wool with their own hands, as is clear from Eccl. 82 seqq. Cf. Lys. 536, where the insult to the *πρόβουλος* is heightened by his being bidden to do work which properly belonged only to people of a low class. In Pl. 166 washing fleeces is mentioned by the *slave* along with thieving, selling onions, and other low occupations.

The different flocks of wool (*κατάγματα*)³ were then united and collected into a single ball or clew (*τολίπη*) ready for spinning.

Spinning. One of the most important of women's duties was spinning.⁴ The spinner held in her left hand the distaff (*ἡλακάτη*), round which the prepared wool or flax was fastened, while with her right she drew out the thread, at the end of which hung the spindle (*ἄτρακτος*), and spun it between her thumb and fore-finger, giving a rotary motion to the spindle (*ἄτρακτον εἰλίσσουσα χερσίν*, Ran. 1348; cf. the expression *εἰλίσσετε δακτύλοις φάλαγγες ἰστόπινα πηνίσματα*, used of *spiders* in an intentionally absurd passage, Ran. 1314-5). When the thread became snarled, the women disentangled it *ὑπενεγκοῦσαι τοῖσιν ἀτράκτοις τὸ μὲν ἐνταυθὶ τὸ δ' ἐκέισε*, much as a modern knitter uses her knitting-needles to disentangle snarls in the yarn; cf. Lys. 567-70. The spun thread was called *κλωστήρ* (Lys. 567; 571; Ran. 1349), sometimes *στήμων* (Lys. 519), a term more usually applied to the warp as distinguished from the woof (*κρόκη*). Aris-

¹ In Av. 827 *ξανοῦμεν* is used in a general sense, including not only the carding but the spinning and other processes in the manufacture of the peplus. Cf. Blaydes's note ad loc.

² It should be noted that carding wool is very hard labor. At the present day it is done either by machinery or by strong men. Hence the delicate women of the upper classes would naturally shrink from it.

³ So the Schol. who defines *κατάγματα* as *κατασπάσματα τῶν ἐρίων*, i.e. *the flocks or slivers of wool into which the tangled mass of hairs is drawn out by the card*. Blümner, *Technologie*, I. p. 106, gives a different and less probable explanation of the word *κάταγμα*, making it mean the wool drawn from the distaff but still unspun.

⁴ Cf. Blümner, *ibid.* I. 107 ff.; also Marquardt, *Privatleben der Römer*, II. 501.

tophanes gave the name *στήμων ἑξεσμένος* to fine thread.¹ The word for spinning is *νῆν* (Lys. 519).

Probably the spinning was done chiefly by female slaves, but the mistress sometimes "took a hand" in it herself. Cf. Lys. 519; 567 seqq.; especially Ran. 1346 seqq., where a woman in moderate circumstances but still rich enough to have female servants is represented as spinning flax in order to sell the thread.

Weaving. Much more frequent are references to weaving² (*ὑφαίνειν*), which was perhaps the most important duty of the housewife. Aristophanes does not mention the loom (*ιστός*) except in the phrase *ιστόπωνα πηνίσματα* (Ran. 1315), applied to the spider's web.³ We have, however, in Nub. 53-5 a clear indication that in his time the upright loom (*ιστὸς ὀρθίος*) had not yet been entirely discarded by the women in favor of the horizontal loom; for the *σπαθή*, the flat, heavy wooden blade with which the threads of the woof were beaten close (*σπαθᾶν*) so as to make the cloth of close texture, was used only with the upright loom;⁴ whereas with the horizontal loom the comb (*κτεῖς*) was employed. Parts of the loom are mentioned several times. The *κερκίς* is referred to in Av. 831 as an implement *properly* used by women, but employed by the effeminate Cleisthenes. Cf. Ran. 1316, *κερκίδος ἀοιδοῦ μελέτας*. The exact range of signification of the word *κερκίς* is uncertain;⁵ but in Ran. 1316 it seems to mean a shuttle, and the epithet *ἀοιδοῦ* must refer⁶ to its well-known

¹ Pollux VII. 32.

² Cf. Blümner, *ibid.* I. 120 ff.; Marquardt, *ibid.* II. 500 ff.

³ *πηνίσματα* are probably the threads of the woof which were coiled round the bobbin (*πηνίον*). Cf. Hesychius and Suidas s.v. *πηνίον*; Marquardt, *Privatleben der Römer*, II. 509.

⁴ Marquardt, *ibid.* II. 505; Blümner, *Technologie*, I. 137.

⁵ Marquardt (*Privatleben der Römer*, II. 508; cf. Rich, *Dict. of Greek and Roman Antiquities*, 1881, s.v. *radius*) thinks that the word denotes not only the *shuttle*, but also the long, needle-shaped *rod* (*radius*), which was sometimes used to introduce the threads of the woof through the interstices of the warp, and sometimes to batten the threads close. According to Marquardt the *rod* was used in the *upright* loom, and the *shuttle* in the *horizontal* one. Blümner (I. 134) is inclined to make *κερκίς* always mean *shuttle*. But more probably the word denoted the *rod* in early times and later was applied also to the *shuttle*.

⁶ Yet the Schol. strangely understands it of the women *singing as they wove*. He says: *ἀοιδοῦ τοῦτ' ἐστὶν ὥσπερ αἱ ὑφάντριάι διὰ τῶν κερκίδων γυναῖκες ἐν τῇ ὑφαίνειν ᾄδουσιν*.

sound. The shuttle and its bobbin (πηνίον) must have come into use before the time of Aristophanes, for he uses the words πήνισμα (Ran. 1315) and ἐκπηνίζεσθαι¹ (Ran. 578, where a woman is speaking). In Thesm. 822 the ἀντίον and the κανών are mentioned among women's implements. It is clear that they were distinct from one another, but what they were is hard to say.² The κανών in Thesm. 822 is probably the long, double-pointed rod (*radius*) with which the woof was pushed through the warp. The reference to the spear-handle (verse 825) is then clear, for the *radius* resembled a spear in shape. The ἀντίον may be the cloth-beam, or more probably the "heddle-rod" (*liciatorium*).

The evidence that weaving was done by women, and by women of the better class, is abundant. As has been seen, the κερκίς, ἀντίον and κανών are mentioned as implements belonging distinctively to women. In Thesm. 822 the chorus, who boast that they have never lost their ἀντίον, κανών or καλαθίσκοι, are all free Athenian women. In Nub. 53-5 Strepsiades uses the figure of a weaver in order to hint to his wife to be less extravagant. In Eccl. 556, when Praxagora is told that the state has been put into the hands of the women, she asks τί δρᾶν; ὑφαίνειν; and in 654 she promises that in the new state the women shall weave ἱμάτια for the men. In Lys. 586 χλαῖναν ὑφαίνειν is the last step in the series of operations which the women perform with the wool. In Lys. 630 the old men say: ἀλλὰ ταῦτ' ὕφηναν ἡμῖν ἄνδρες ἐπὶ τυραννίδι, using ὑφαίνω in its double sense of "weave" and "contrive."³

¹ Explained by the Schol. as equivalent to ἐξέλκειν ἀπὸ τοῦ πηνίου.

² Rich thinks that ἀντίον (Latin *insubulium*) means the "cloth-beam" at the top of the loom, around which the cloth was rolled when it became longer than the height of the loom. Blümner thinks that κανών, like κανόνες, denotes the "heddle-rods" (*liciatoria*) to which the leashes (μίτοι, *licia*) were fastened; and that ἀντίον in earlier times was perhaps the name of one of the "heddle-rods," while later the word became exactly equivalent to κανών. See his elaborate note, p. 130 of the "Technologie." It seems probable that κανών sometimes denotes the "heddle-rod" and sometimes the *radius*. The different meanings were often confused with one another, and this gave rise to great uncertainty about the true meaning of the word. Cf. Eustathius 1328, 43. So far as the name goes, any straight rod or bar may be called κανών.

³ Other references to weaving are Vesp. 1143-7; Av. 712; 943. In Thesm. 738 Mnesilochus calls women κακὸν καὶ τοῖς σκευαρίοις καὶ τῇ κρόκῃ. The word κρόκη may mean either "thread," "woof," or "cloth."

Working in Flax. Women worked in flax as well as wool. Thus in Lys. 735 seqq. a woman pretends that she wants to go home on account of some Amorgine flax which she has left unhackled, and promises to come back as soon as she has cleaned it. In Ran. 1346 seqq. it is flax (λίνον) that the woman was spinning in order to sell the thread.

Embroidering. References to embroidery are quite common¹ in Aristophanes, but proof that it was done by women is scanty. We have, however, evidence that the peplus of Athena, which was woven by noble Athenian maidens, had embroidered upon it the figures of men ἀξιοὶ τοῦ πέπλου (Eq. 566; cf. 1180, and Av. 827). These girls must therefore have been taught to embroider.

Other Duties of Women. As we have seen, women of the poorer classes went to the spring for water (Lys. 327 seqq.); they carried burdens on their heads (Eccl. 222); they sometimes turned the hand-mill, though this was generally done by the slaves (cf. Nub. 1358).

EDUCATION OF WOMEN.

The evidence of Aristophanes on this point is not very abundant; yet it tends strongly to prove that the amount of education which Athenian women of the better class received was very slight.

Knowledge of the Elements. Probably most women received sufficient instruction in τὰ γράμματα to aid them in their domestic economy. Praxagora is represented as well acquainted with the alphabet (Eccl. 684-6). In Lys. 767 seqq. it is not certain from the context whether Lysistrata reads the oracle or repeats it from memory; but in Eccl. 1011 seqq. the old woman clearly reads the decree at the young man's request.

In Thesm. 432 a woman in concluding her speech says that she will have the rest written out with the aid of the female clerk (τῆς γραμματέως) of the assembly; and a woman named Lysilla is mentioned as having been clerk at a council of women (verse 375). This is of course a burlesque; nevertheless it implies that a knowledge of reading and writing was not uncommon among Athenian women.

¹ E.g. Eq. 967; Vesp. 475; 1215; Lys. 1189; Ran. 937-8; Pl. 1199. Cf. Pl. 530 and Schol.

Still it is noteworthy that there is no instance in Aristophanes of a woman's writing or receiving a letter. Of course the tradeswomen must have been able to calculate sufficiently to keep their accounts. They also had some knowledge of law. Cf. Vesp. 1387 seqq.

Knowledge of Singing and Dancing. A knowledge of singing and dancing seems to have been quite widely diffused among the women. To say nothing of the numerous places in the *Lysistrata*, *Thesmophoriazusae* and *Ecclesiazusae* where a chorus of women, or of men and women, sing and dance, even the poor women who ground barley at the mill could sing (Nub. 1358). In Eccl. 893 seqq. (cf. 880-3; 887) the *γῆρας* and *νεανίς* sing alternately, and again in 952 seqq. the *νεανίς* and *νεανίας*; but too much importance must not be attached to this fact, for the women clearly belong to the class of *hetaerae*. In Lys. 408-9 a husband is said to tell the goldsmith that his wife lost the pin of her necklace while dancing at evening. Women danced at the festival of Adonis (Lys. 392), and apparently maidens performed dances in honor of Ceres and Proserpine (Thesm. 101-3). Both women and girls shared in the songs and dances of the *mystae* (Ran. 324 seqq.: cf. 409 seqq.; 444). Women were sometimes introduced on the stage to dance the licentious "cordax" (Nub. 540; 555).¹

Sources of Information. Women no doubt gained considerable information by listening to the talk of the men. Cf. Lys. 513. They were in a manner educated by hearing the words of their parents and elders (Lys. 1126-7), though such instruction was rather incidental than intentional. They received a certain amount of intellectual training from hearing the tragedies at the theatre. Aristophanes even makes a young girl speak familiarly of the tragedies of Euripides (Pax 146-8), though he manifestly wishes to add to the humor of the scene by putting the words into the mouth of a child. But the women quote Euripides (Thesm. 390 seqq.), and throughout the *Thesmophoriazusae* their familiarity with his plays is assumed.

¹ The curious Spartan dance called *βίβασις* is referred to in Lys. 82. Cf. Pollux, IV. 102. It was performed by persons of either sex, and required strength and endurance rather than skill, the object being to strike the posteriors with the sole of the foot (*πρὸς πυγὰν ἄλλεσθαι*) as many times as possible. The dances of Spartan youths and maidens are beautifully described in Lys. 1308 seqq.

Ignorance of Public Life. Women's ignorance of public life and matters belonging to it is best illustrated by the amusing scene at the opening of the *Ecclesiazusae*, where the women meet to rehearse before going to the assembly. It is noteworthy that Aristophanes has made both *Lysistrata* and *Praxagora* assign a special reason for their knowledge of public affairs (*Lys.* 1124-7; *Eccl.* 243-4), thus clearly marking both cases as exceptional.

Women of the higher classes must also have been very ignorant of matters of business. By the Attic law a woman could not make a contract involving more than the value of a bushel and a half of barley (*Eccl.* 1025).¹

It would seem from this brief survey of the subject that the position of the Athenian woman, though better than is sometimes represented, was yet decidedly lower than that of the women of civilized nations at the present day. Still it had its redeeming features, above all in the respect shown to the mother of children and the mistress of the home.

¹ Cf. the Schol. ad loc.; also Meier and Schömann, *Attische Process*, pp. 563, 764.

NOTES.

ψαῦος IN ALCMAN.

Schol. A, Iliad M 137 (on the word αὔας) : ἴσως δὲ βεβαρυτόνηται, ἐπεὶ καὶ τὸ ναῦος ἐβαρύνετο, καὶ τὸ Τραῦος κύριον, καὶ τὸ ψαῦος παρ' Ἀλκμᾶνι. See Lenz's Herodian I p. 109, II p. 81; Bergk's Poet. Lyr. Graec., 4th ed., III p. 77.

Probably ψαῦος is miswritten for φαῦος = φάος. Hesych. φανόφοροι · Αἰολεῖς, ἰέρειαι.

‘PROXUMA FAENISICEI,’ CIL. I. 199.

In the inscriptional ‘Sententia Minuciorum,’ l. 37, we read *prata quae fuerunt proxuma faenisicei L. Caecilio Q. Muucio cos.* The meaning is evidently ‘last hay-cutting.’ Mommsen supposed a feminine *faenisex*, of which this should be the ablative (as *fontei* in line 7) : this I followed in my ‘Remnants of Early Latin.’ But it is impossible that *faenisex* should have had such an abstract meaning. We have rather the ablative of a **faenisicies*, the counterpart of *faenisicia*. The spelling *faenisicei* I am inclined to explain as a simple error of the graver for *faenisicie*.

φορτικεύομαι, SCHOL. ARIST. RAN. 13.

Φρύνιχος · Δίδυμός φησιν ὅτι νῦν Φρυνίχου τοῦ κωμικοῦ μέμνηται, ὡς παρ' ἑκάστα ἐν ταῖς κωμωιδίαις φορτικευομένου. ἔστι δὲ πατρὸς Εὐνομίδου · κωμωιδεῖται δὲ καὶ ὡς ξένος, καὶ ἐπὶ φαυλότῃ ποιημάτων, καὶ ὡς ἀλλότρια λέγων καὶ ὡς κακόμετρα.

So the Scholiast. Compare Suidas s.v. Λύκις : ὁ δὲ Φρύνιχος ἐν ταῖς κωμωιδίαις παρ' ἑκάστα ἐφορτικεύετο · κωμωιδεῖται δὲ καὶ ὡς ξένος, ἐπὶ φαυλότῃ ποιημάτων, καὶ ὡς ἀλλότρια λέγων καὶ ὡς κακόμετρα.

That Phrynichus's plays contained φορτικά is credible enough, but the statement is beside the point here. Didymus's words are evi-

dently a paraphrase of verse 15 of the text, σκεΐη φέρουσ' ἐκάστοτ' ἐν κωμωδίαι.

Read φορτακευομένου, and correspondingly in Suidas ἐφορτακεύετο. There was a word φόρταξ 'porter.' Pollux VII 132 : φόρτακας μέντοι ἢ παλαιὰ κωμωδία τοὺς ἀχθοφοροῦντας ἐκ τοῦ ἐμπορίου καλεῖ. The verb φορτικεύομαι should disappear from our dictionaries.

ἄρτύω IN THE HERACLEAN TABLES.

There is a passage in the Heracleian Tables, I 105 flg., which seems not yet rightly understood. The talk is of leasing the sacred lands of Dionysus.

καὶ αἷ τινι κα ἄλλω παρδῶντι τὰν γᾶν, ἂν κα αὐτοὶ μεμισθῶσωντι, ἢ ἄρτύσωντι, ἢ ἀποδῶνται τὰν ἐπικαρπίαν, ἂν αὐτὰ τὰ παρέξόνται πρῶγ-γῶς οἱ παραλαβόντες ἢ οἷς κ' ἄρτύσει ἢ οἱ πριαμένοι τὰν ἐπικαρπίαν, ἂν αὐ καὶ ὁ ἐξ ἀρχᾶς μεμισθωμένος.

Franz (CIG. III p. 708) and Meister (Curtius' Studien IV p. 436) take ἄρτύω as '*exerceo*,' '*bewirthschaften*.' The translation would then be 'if they till the land for another,' and below 'those for whom he tills it.' Meister explains that three classes of sub-lessees are named : (1) sub-lessee in full, (2) sub-lessee for whom the lessee is to work the land "quasi villicus," and (3) man to whom crops are sold.

By what process this sense can be got out of ἄρτύω I cannot imagine ; nor does the Hesychian gloss quoted by Meister, ἀρτυθῆναι · παρσκειασθῆναι, afford much light. Rather the reference is to partnership ; the second class of sub-lessees are those with whom the lessee 'makes a compact' or 'goes shares' in the tillage of the land. Hesych. ἀρτύς · σύνταξις. ἀρτύν · φιλίαν καὶ σύμβασιν. ἀρτυμα · διαθήκη. ἀρ-τύ-ς is properly 'joining,' so 'agreement.' Thence ἀρτύω 'put together,' 'covenant,' 'arrange,' 'compound' a dish, etc. ἀρτυτήρ ('umpire' ?) was the title of a magistrate in Thera.

ARISTOPHANES FROGS 180 FLG.

The manuscripts give us these verses in the following order : the distribution of the speeches wavers somewhat, but is substantially as follows : —

- Dion.* χρηστὸς εἰ καὶ γεννάδας.
- Charon.* ὥπ, παραβαλοῦ. 180
- Xanth.*¹ τουτὶ τί ἔστι; *Dion.*² τοῦτο; λίμνη νῆ Δία.
- Xanth.*³ αὕτη ὅστιν ἦν ἔφραζε· καὶ πλοῖον γ' ὄρω.
- ⁴ νῆ τὸν Ποσειδῶ, κᾶστι γ' ὁ Χάρων οὔτοσί. 183
- ⁵ χαῖρ' ὦ Χάρων, χαῖρ' ὦ Χάρων, χαῖρ' ὦ Χάρων.

The older editors retained this order, distributing the words among the speakers as suited them. But v. 180 made difficulty. The boat is mentioned before it is seen. Charon's voice is heard by the spectators, but the actors pay no attention to it; afterwards Charon is espied and greeted. Then whom is Charon addressing? In 269 he commands the oarsman Dionysus παραβαλοῦ τῷ κωπίῳ, but now he is alone in his boat.

Hamaker and others have thrown out verse 180. Ritschl put it after 182. This removes a part of the trouble, but the repetition of πλοῖον becomes annoying (χωρῶμεν ἐπ' αὐτό would be the natural thing to say), and νῆ τὸν Ποσειδῶ ceases to be the responsive asseveration which its position suggests; compare 276, 285, 295, 1067.

Verse 180 should be put after 183,⁶ and the words ὥπ, παραβαλοῦ should be given to Xanthias. The whole should read:—

- ΔΙΟ.* χρηστὸς εἰ καὶ γεννάδας.
- ΞΑΝ.* τοῦτο; λίμνη. *ΔΙΟ.* νῆ Δία, 181
- ΞΑΝ.* καὶ πλοῖον γ' ὄρω.
- ΔΙΟ.* νῆ τὸν Ποσειδῶ, κᾶστι γ' ὁ Χάρων οὔτοσί. 183
- ΞΑΝ.* ὥπ, παραβαλοῦ. 180
- ΔΙΟ.* χαῖρ' ὦ Χάρων, χαῖρ' ὦ Χάρων, χαῖρ' ὦ Χάρων. 184

Παραβαλοῦ is *huc appelle*. ὥπ, as a κέλευσμα τῶν ἐρευσσόντων καταπαύον τὴν κωπηλασίαν (Schol. Av. 1395), must be distinguished from ὡσὸπ (208), the ἐλατικὸν ἐπίφθεγμα proper, or signal for rowing.

¹ R marks no change of speaker.

² *Xanth.* R.

³ RM mark no change.

⁴ V assigns this verse to *Dion.*; the other manuscripts mark no change.

⁵ AU assign to *Dion.*; the others mark no change.

⁶ This order has been suggested, I see, by Roethe, *Leipziger Studien*, III p. 203. It is right so far as it goes, but does not meet the whole difficulty.

HERODOTUS VI 57, AND THE VOTES OF THE SPARTAN KINGS.

Herodotus, in the 57th chapter of the 6th book, enumerates the rights and powers of the kings of Sparta; and has at the end a sentence which means, or has been interpreted to mean, that they cast *two votes apiece* in the *γερονσία* or Senate. Thucydides I 20, gives this as a sample of popular errors in his time; and it is very probable that he had Herodotus in mind, inasmuch as the other wrong opinion which he adduces about the Pitianian lochos, is also to be found in Herodotus. As a matter of fact, we may rest assured that the kings did *not* have this two-ballot privilege: the question is, how we are to understand the passage of Herodotus. It is very conceivable that Herodotus should have made a wrong statement: it is also possible that he did not make it, but that Thucydides misunderstood him. We cannot therefore decide the question of Herodotus's meaning in advance, on *a priori* grounds.

Herodotus's words are: ἤν δὲ μὴ ἔλθωσι (that is, if the kings are absent from a meeting of the Senate) τοὺς μάλιστα σφί τῶν γερόντων προσήκοντας ἔχειν τὰ τῶν βασιλέων γέρεα, δύο ψήφους τιθεμένους, τρίτην δὲ τὴν ἑωυτῶν.

This is not the clearest language in the world, and it has been understood in at least *three* ways.

I. Cobet in *Mnemosyne* xi, p. 345, understands the plural τοὺς . . . προσήκοντας, as meaning only *one* man at *each time* — though different men on different occasions: as loosely used, therefore, for τὸν ἀεὶ μάλιστα προσήκοντα. His idea is, then, that if the kings are absent, the *one* senator nearest of kin to them casts *two* votes for the kings (one for each) and *a third* for himself. This idea of Cobet's is not entirely new: it may be found in Gaisford's note (appended to Wesseling's) in his edition (1826). But neither Cobet nor Gaisford tell us how it could always (or indeed *ever*) happen that the same senator should at once be next of kin to the Agid and the Eurypontid king.

II. Taking then τοὺς . . . προσήκοντας as *two* senators, the δύο ψήφοι may mean *two apiece*, as if it were δύο ψήφους ἐκάτερον τιθεμένους. Each of the two senators would cast three votes; two votes for a king and one for himself: and it would follow that the kings had two votes each. This is the old way of understanding the place: and

certainly the most natural. Yet *τρίτην* makes trouble: it is out of consonance with the plurals *τοὺς . . . προσήκοντας* and *ἑωυτῶν*. We should expect at least, as Stein remarks, *τρίτας δὲ τὰς ἑωυτῶν*.

III. Still understanding two senators, we can take *δύο ψήφους* as *two altogether*, one for each king. So Wesseling interprets: and so also Bähr. But then *τρίτην* is worse than ever; as if the *two* senators cast *one* vote between them!

It is this *τρίτην* that makes all the trouble, and prevents any rational understanding of the passage. The truth, I believe, is this: Herodotus wrote *δύο ψήφους τιθεμένους*, and stopped. He probably meant, 'each man casting two votes'—one for himself, and one for a king: and did not see that there was a possibility of being wrongly understood. But many (and among them, it would seem, Thucydides) brought *δύο ψήφους* into a false connexion with the word *γέρεα*, as if it were this in which the *γέρεα* or *privilege* of the kings consisted: to cast *two votes*. Or in other words they understood *γέρεα* as being 'special royal privilege' instead of merely 'right of voting,' and interpreted *δύο ψήφους* accordingly. Later some well-meaning fellow, that there might be no mistake about it, added *τρίτην δὲ τὴν ἑωυτῶν*: but fitted it on, as interpolators often do, rather clumsily.

FREDERIC D. ALLEN.

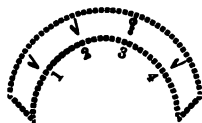
MART. V. 78, vv. 31, 32.

The two last verses of Martial's Epigram, V. 78, have given much trouble to commentators. So much so that Friedländer, in his late edition of the poet, gives the passage up as unintelligible. A possible interpretation seems, so far as I know, to have been overlooked. After giving Toranius the bill of fare and an account of the other attractions of his dinner, Martial in the two closing lines, evidently referring to the company, says,—

"Claudiam sequeris
Quam nobis cupis esse tu priorem."

Almost all commentators have taken *quam* as relative referring to Claudia. If, however, it is taken as interrogative, it would make Martial leave it to his friend to decide who the fourth member of the

partie carrée should be. *You shall come next to Claudia; who do you wish should take the place above me?* As they reclined on the *stibadium* or *sigma*, Claudia would come first at the right, followed by Toranius, leaving a place between the two men for the second dame. What more natural than that Martial should leave the selection of this lady to his guest?



1. Claudia.
2. Toranius.
3. ?
4. Martial.

For recent interpretations of the passage in other senses see Cambr. Philol. Soc. Proceedings IV–VI, p. 25, and Friedländer's critical commentary *sub versu*.

J. B. G.

ELLVM.

There are three indisputable examples of the word *ellum*, one in Plautus and two in Terence, as follows :

Relictus. ellum : non in busto Achilli, sed in lecto accubat
Bacchides 939.

Nescio qui senex modo uenit : ellum, confidens, catus
Andria 855.

sv. O Ctesipho. ct. O Syre, Aeschinus ubist? sv. Ellum, te
 expectat domi. ct. Hem *Adelphoe* 260.

A doubtful example occurs in Terence *Adelphoe* 389, where *ellam* is sometimes read on the authority of Donatus. But the manuscript reading is not *ellam* but *et iam*, a pleasing emphasis of *iam*, vs. 388, and adopted in the text by Umpfenbach. Two other examples of *ellam*, sometimes quoted from Plautus *Aulularia* 781, and *Miles* 789, are both spurious, *eccillam* being the only reading of the manuscripts. In *Curculio* 278 the manuscripts really have the unmetrical *ellum*, altered however by Müller into the *eccillum* now adopted in the text.

Of the formation of *ellum* a rough and ready explanation is given by Priscian, XII, p. 594, Keil :

quid est enim 'eccum' nisi 'ecce eum'? 'eccam' nisi 'ecce eam'? 'eccos' nisi 'ecce eos'? 'eccas' nisi 'ecce eas'? 'ellum' nisi 'ecce illum'?

Obviously wrong as this explanation is, it has come down into some modern books. For instance, in the Forcellini of De-Vit (s.v. *ecce*, 6), it is said:

Pro *eccillum* leges et *ellum*, per syncopen inde factum.

A more plausible explanation is still almost universally adopted:

ellam = *en illam*, the reading established on the authority of Donatus, the manuscripts having either *est iam* or *etiam*. Wagner to Ter. *Ad.* 389.

Durch Tonanschluss von *illum*, *illam* an vorangehendes *en* sind zu Compositen verwachsen

illum, *ellam*.

Corssen, *Ausspr.* II², 846. See also II², 642.

en illum, *en illam* wird in *ellum*, *ellam* verschmolzen. Neue II², 313.

That *ellum* or *ellam* cannot be compounded of *en illum* or *en illam* can be shown in a word. In the days of Plautus and Terence an interrogative *en* was in use in the combination *en umquam*? The deictic or demonstrative *en* with an accusative is of later origin; in this sense the dramatists know only *em*: see Köhler in Wölfflin's *Archiv*, VI, 25. Hence *ellum* must be formed from *em illum*. The only person, as far as I have seen, who has observed this, is A. Spengel, in his note to *Andria* 855.

G. M. L.

GENERAL INDEX.

a, ab, limitative use of, 153.

ἀλετρίδες, 165.

aliter, with distributive force, 154.

ALLEN, F. D., Notes on ψαῦος, *faenisticæ*, φορτικέομαι, 187.

ἀρτύω, Ar. *Ran.* (180 ff.), 188.

Votes of Spartan kings, 190.

ἄν with ἔδει etc., 79 ff.

ἀνάκλασις, meaning of, 44 f.

Archimedes and the Roman fleet, 52 ff.

ἀρις, meaning of, 24.

Aristophanes, position of women in, 159 ff.

(Schol. *Ran.* 13), emended, 187.

ἄρκτοι, 166.

ἀρρηφόροι, 165.

ἀρτύω, meaning of, 188.

ἀρχηγέτις, 165.

Beckmann on mirrors, 50.

βίβασις, 185 n.

Buffon's reflectors, 53.

Burial ceremonies, women at, 173.

χρῆν with inf., 77 ff.

χρῆν with inf., Hermann on, 78 n.

χρῆν ἄν, 81 n., 85 ff.

Clothing, made by women, 179 ff.

Concessive sentences with ἔδει etc., in apod., 79 f.

considero, etym. of, 97.

cremia, meaning of, 42.

Crystal, its nature unknown till late in antiquity, 48 f.

Crystals used in kindling fire, 49.

crystallum, see κρύσταλλος.

Dawes, canon of, 73, 75 n.

debebas, with inf., 77.

debebat, with inf., 87 f.

deberet, with inf., 87 f.

debuerat, with inf., 88.

debuisset, with inf., 88.

debuisset, with inf., 88.

deceat, with perf. inf., 132 f.

delicatus, deliciae, etym. of, 100 f.

desidero, etym. of, 96.

divom or *divom*?, 89 f.

duumviratus, 90.

ἔδει, χρῆν, etc., with inf., construction of, 77 ff.

Education of women, 184 ff.

egregium publicum in Tac. A. iii, (70, 4), 107 ff.

eikos ἦν, with inf., 77 ff.

ἐκκαύματα, meaning of, 42.

elementum, etym. of, 97.

Eleusinian Mysteries, women at, 166, 169.

ellum, 192 f.

Elmsley's theory on οὐ μή, 73 f.

Emendations suggested:

Schol. Ar. *Ran.* (13), 187.

Hesych. s.v. *στορεῦς*, 33.

Hdt. vi (57), 190.

Schol. A. Il. xii, (137), 187.

Plut. (Num. 9), 58 ff.

Quint. i, (4, 16), 91 f.; (27), 90 f.

Suid. s.v. *Λόκισ*, 187.

Tac. A. iii, (70, 4), 107 ff.

Theophr. Ig. (73), 48.

ἐμπόρευμα, meaning of, 16.

ἐσχάρα, meaning and material, 26.

Etymologies, Some Latin, 93 ff.

Euripides, influence on estimate of women, 160.

ἐξῆν with inf., 77 ff.

faenisicei, 187.

Fauces of the Roman house, 1 ff.

ferula, see *νάρθηξ*.

Fire, fables of nations without, 15.

how kept lighted at home and on campaigns, 16 f.

newly lighted annually in dwellings, 56.

lighted from neighbor's fire, 18.

four methods of newly kindling, 19.

kindled by rubbing or boring wood, 19-34.

from two stones, 35-38.

from stone and iron, 38 f.

from the sun's rays, 44-56.

by mirrors, see *Mirrors*.

Fire of Vesta, see *Vestal fire*.

Fire-tools, illustrations of, 14.

fomes, meaning of, 39.

FOWLER, H. N., Plutarch *περὶ εὐθυμίας*, 139 ff.

fut. ind. with *οὐ μή*, 65-76.

gaudeo, perf. inf. with, 130.

Glass in use at Athens, 44, 46.

Glass mirrors, see *Mirrors*.

GOODWIN, W. W., on *οὐ μή* with the subjv. and fut. indic., 65 ff.

on the construction of *ἔδει*, etc., with inf., 77 ff.

GREENOUGH, J. B., on the Fauces of the Roman house, 1 ff.

Mart. V, (78, 31), 191 f.

Some Latin etymologies, 93 ff.

HALEY, H. W., Position of women in Aristophanes, 159 ff.

Hermann, on *χρῆν* with inf., 78 n.

Herodotus (vi, 57), emended, 190 f.

ieroφάντης, duty of the, 59.

Hesychius (s.v. *στοπεύς*), emended, 33.

Homer (Schol. A, II. xii, 137), emended, 187.

House, proportions of the Roman, 9 f. of the Surgeon, Plan of, 11.

HOWARD, A. A., on the Lat. Perf. Inf., 111 ff.

Husband and wife, see *Women*.

igniarius, meaning of, 20, 27 ff.

igniculus, meaning of, 16.

ignitabulum, meaning of, 20, 27 ff.

improbis, etym. of, 95.

Indicative in indir. questions, 157.

Infinitive as predicate, 158.

perfect, as present, 111 ff.

ἴσακα, see *ἴσκα*.

ἴσκα, meaning of, 40 f.

Ivanoff, on the Fauces, 2.

Jordan, on the Vestal fire, 56 n.

ἱυνο, perf. inf. with, 128 ff.

κάγκανα, meaning of, 42.

κατηφόρος, 166.

κανών, 183 n. 2.

κατάκλασις, meaning of, 44 f.

κερκίς, 182.

κρύσταλλος, meaning of, 48 f.

Kuhn, die Herabkunft des Feuers, 15, 19, 21, 26, 33.

Kvičala, on *οὐ μή*, 75 n. 2.

LANE, G. M., Notes on Quintilian, 89 ff. on *ellum*, 192 f.

La Roche, on *ἄν* with *ἔδει* etc., 81 n.

λείψανα, meaning of, 16.

licebat, *liceret*, with inf., 87 ff.

Liddell and Scott, errors in Lexicon of, 24 (*ter*), 32, 34, 35.

Loom, as used in time of Aristophanes, 182 f.

mamphur, meaning of, 23.

Marriages, women at, 172.

Matches, sulphur, 15, 42 f.

μή, subjv. with, in cautious assertion, 67 ff.

Mirrors, concave, used in kindling fire, 51 f.

glass, unknown till late antiquity, 50 f.

metallic, 51.

plane, used in kindling fire, 52 ff.

MORGAN, M. H., *de ignis eliciendi modis*, 13 ff.

nartheca, see *νάρθηξ*.

νάρθηξ, nature of and use, 43 f.

nec, strengthened by a following negative, 154.

neque haud, in Roman comic poets, 72.

-om, quantity of, in gen. pl., 89 f.

oppido, 154.

οὐ μή with subjv. and fut. ind., 65 ff.

πεπυρμένον, meaning of, 41 and n.

Perfect inf. in Latin with pres. force, 111 ff.

Peyrard's reflectors, 53.

φορτικένομαι, emended, 187.

pigel with perf. inf., 132.

Planck, Feuerzeuge, 13 n., 19 n. 2.

Plutarch (Num. 9), emended, 58 ff.

Plutarch, *περὶ εὐθυμίας*, sources of, 139 ff.

possum with perf. inf., 124 ff.

praemium, etym. of, 99 f.

pramantha, 21.

probus, etym. of, 95.

Procas, etym. of, 93 f.

procax, etym. of, 94.

proceres, etym. of, 93 f.

procul, etym. of, 93.

Proculeius, etym. of, 93 f.

Proculus, etym. of, 93 f.

procum, etym. of, 93 f.

† *procus*, 93 f.

Prometheus and Skt. *pramantha*, 21.

προσήκεν with inf., 77 ff.

provincia, etym. of, 101 f.

† *provincus*, 101 f.

proximus, etym. of, 93 f.

ψαῦος in Alcman, 187.

puet and *puetor* with perf. inf., 130 ff.

πύρδαλα, *πύρδαλα*, meaning of, 16.

πυρεία, *πυρεῖον*, meaning and use of, 20 ff., 30 f., 35, 39.

πυρεκβόλον, meaning of, 39.

πυροβόλα, *πυρόβολοι*, meaning of, 38.

πυρφόρος, duty of the, 17.

putare, 'intend,' with inf., 158.

Quantity of *-om* in gen. pl., 89 f.

quemadmodum, use of, in Vitruvius, 154 ff.

Quintilian, Notes on, 89 ff.

(i, 4, 16), emended, 91 f.

(i, 4, 27), emended, 90 f.

ramenta sulphurata, 42 f.

recens, etym. of, 93 f.

recipero, etym. of, 93 f.

reciprocus, etym. of, 93 f.

† *recus*, 93 f.

repercussus, see *ἀνάκλασις*.

RICHARDSON, G. M., *Vitruviana*, 153 ff.

rudimentum, Etym. of, 95.

sic, in apodosis, 156 f.

SMITH, C. L., on Tac. Ann. iii, (70, 4), 107.

Spartan kings, votes of the, 190 f.

Spinning, 181 f.

Stieglitz on the Fauces, 1.

στορεύς, meaning of, 32 ff.

στορένη, error for *τορένη*, 34.

Subjunctive with *οὐ μή*, 65 ff.

with *μή* in cautious assertion, 67 ff.

Suidas (s.v. *Λύκισ*), emended, 187.

tabula, material and meaning of, 26.

Tacitus (A. iii, 70, 4), emended, 107 ff.

terebra, material and meaning of, 20 n. 2, 26.

parts and use of, 22 ff.

τέρετρον, meaning of, 22.

Theatre, women at the, 170 ff.

Theophrastus (Ig. 73), emended, 48.

Thesmophoria, 169.

τορένη, meaning of, 34.

τρύπανον, material and meaning of, 20, 26.

parts and use of, 22 ff.

τρυνπανούχος, meaning of, 24 f.

ἱπεκκαύματα, meaning of, 42.

ῥσκα, see *ῥσκα*.

ut with subjv. in wishes, 157.

Vestal fire, origin of, 16 and n.

lighted annually, 56.

how lighted, 56 ff.

Plutarch's account of, corrupted, 58 ff.

- Vestal fire, Julian's reference to, 61 f.
 Vitruviana, 153 ff.
volo with inf., 113 f.
- Weaving, 182 f.
- Women, position of, in Aristophanes,
 159 ff.
 popular estimate of, 159 ff.
 not the equal or confidantes of hus-
 bands, 161 ff.
 husband's authority over, 162.
 lack of conjugal affection, 163 f.
- Women, not generally allowed in public,
 164 ff.
 liberty of, 169 ff.
 at religious ceremonies, 165, 169.
 at the theatre, 170 ff.
 at marriage and burials, 172 f.
 in business, 174.
 domestic duties of, 177 ff.
 education of, 184 ff.
- Wool, how prepared, 179 f.
- ζάρυρα*, meaning of, 16.

INDEX OF CITATIONS.

Accius, *Frag.* (10), 6.
 Aelian, *N. A.* xv (8), 49.
 Aeschylus, *Ag.* (970), 63.
 Cho. (493), 30.
 Prom. (109), 43; (384 Schol.), 40.
 Sept. (38), 70.
 Frag. 51.
 Aetius, vii (91), 42; viii (3), 41.
 Alexander Aphrodisiensis, i (38), 39; (132), 51.
 Allegor. Hom. (26), 52.
 Anthemius, *frag.* (2), 52 f.
 Anthol. Pal. i (118), 32; vi (205), 33.
 Anton. Mon. (1480 c.), 38.
 Anton. et Max. (p. 820), 143.
 Apollod. *Poliorcet.* (p. 148), 24.
 Apollonius Rhod. i (1182), 21; 32; 42.
 Appian, *B. C.* i (31), 18.
 Appuleius, *Apol. s. Mag.* (16), 51; 55.
 Aristides, i (p. 785), 16.
 Aristophanes, *Ach.* (73), 44; (132), 164; (137 ff.), 169; (242 ff.), 166; (245 ff.), 165; 170; (253 ff.), 166; (262), 162; 170; (478), 174; (730), 178; (816 f.), 164; (1003 ff.), 162 n.; 178; (1056 ff.), 173; (1177), 180 n.
 Av. (Schol. 160), 173 n.; (368), 164; (665 f.), 162; (712), 183 n.; (714), 180 n.; (793 ff.), 171; 175; (827), 181 n.; 184; (828 ff.), 164; (831), 182; (943), 183 n.; (1202 ff.), 165; (1639), 160; (schol. 1713), 173 n.; (1720 ff.), 165; 173; (schol. 1737), 173 n.

Aristophanes — *continued.*

Eccl. (14 f.), 177; (18), 169; (33 ff.), 168; (59), 169; (62 ff.), 176; (schol. 72), 171; (82 ff.), 181; (110 ff.), 164; (153 ff.), 174; (210 ff.), 177; (215 ff.), 180; (221 ff.), 179; 184; (225), 175; (243 f.), 186; (287 f.), 168; (311 ff.), 168; (323 ff.), 164; 168; (335 ff.), 162; 168; (348 f.), 175; (446 ff.), 175; (478 ff.), 168; (510 ff.), 168; (520 ff.), 163; 168; (522 ff.), 176; (528 ff.), 175; (536 ff.), 173; (556), 183; (650), 65; (654), 183; (684 ff.), 184; (734 ff.), 170; (795), 69; (845), 179; (877 ff.), 176; (884 ff.), 165; (893 ff.), 185; (952 ff.), 185; (1011 ff.), 184; (1025), 186; (1030 ff.), 173; (1146), 172.
Eq. (19), 174; (schol. 400), 169 n.; (566), 184; (715 ff.), 178; (1056 f.), 160; (1168 ff.), 179; (1180), 184; (1286), 33; (1300 ff.), 166; 175.
Lys. (1), 170; (2), 170 n.; (3), 170; (5 ff.), 175; (8 ff.), 159; 160; (13), 175; (16 ff.), 164; 167; (18), 177; (19), 178; (31), 160; (42 ff.), 160; (46 ff.), 162; (51), 180 n.; (63 f.), 170; (72), 168; (82), 185 n.; (99 ff.), 164; (120 ff.), 162; (137 ff.), 160; (149 ff.), 162; 168; (157), 162; (160 ff.), 162; (164 f.), 162; (217), 168; (219 ff.), 162; (260 f.),

Aristophanes, *Lys.* — continued.

160; 164; 168; (283), 160;
(327 ff.), 175; 184; (368 f.),
160; (388), 170; (389 ff.),
170; (392), 185; (403 ff.),
176; (408 f.), 185; (456 ff.),
174; (473 ff.), 164; (492 ff.),
164; (495), 177; (507 ff.),
162; 163; (508), 167; (510),
168; 169; (512), 162; (513),
185; (516), 162; (519 f.), 162;
181; 182; (535 f.), 181; (551
ff.), 162; (567 ff.), 181; 182;
(574 ff.), 179; (schol. 575),
180 n.; (schol. 578), 180 n.;
(579), 181; (586), 183; (593),
165; (601), 173; (611 f.),
173; (626 ff.), 164; (630),
183; (641 ff.), 166; (schol.
642 ff.), 165 n.; (649 ff.), 164;
(700 ff.), 175; (704), 66;
(710 ff.), 164; (729 ff.), 180
n.; (732), 180 n.; (735 ff.),
161; 184; (767 ff.), 184;
(797 ff.), 176; (821 ff.), 176;
(853 ff.), 164; (866), 168;
(872 ff.), 163; (881), 178;
(894 f.), 177; (896), 180 n.;
(900 ff.), 162; (931 ff.), 162;
(950 f.), 162; (958), 178;
(1007), 175; (1014 f.), 160;
(1037 f.), 160; (1049 f.), 172;
(1124 ff.), 160; 186; (1126 f.),
169; 185; (1195 ff.), 178 n.;
(1284), 170; (1308 ff.), 185.

Nub. (41 ff.), 164; (52), 170 n.;
(53 ff.), 162; 182; 183; (60
ff.), 162; (68 ff.), 178; (296),
66; 67 n.; 74; (367), 67 n.;
74; (505), 67 n.; 74; (539 f.),
172; 185; (555), 185; (603
ff.), 170; (691 f.), 160; (764),
45; 47; (1099 ff.), 172; (1144
ff.), 178; (1352), 73; (1358),
184; 185; (1380 ff.), 178;
(1445), 164.

Pax (50 ff.), 172; (146 ff.), 185;
(420), 170; (520 ff.), 165;
(535), 174 n.; (766), 172;

Aristophanes, *Pax* — continued.

(819 ff.), 165; (schol. 869),
173 n.; (883 ff.), 172; (962
ff.), 171; (979 ff.), 167; (1127
ff.), 164; (1138), 164; (1144
f.), 176; 177; 179; (1305 ff.),
173; (1316 ff.), 165; 173 and
n.; (1325), 164; (schol.
1340), 173 n.

Pl. (166), 181; (249 ff.), 164;
169; (426 ff.), 174; (435 f.),
174; (529), 173 n.; (schol.
530), 173 n.; (533), 177;
(613 ff.), 168 n.; (644 ff.),
175; (674), 170; (688 ff.),
170; (768 ff.), 170; (800),
172; (959 ff.), 176; (1013),
169; (1103 ff.), 164; (1197
ff.), 170.

Ran. (schol. 13), 187; (149),
178; (157), 169; (180 ff.),
188; (324 ff.), 185; (409 ff.),
166; 185; (444 ff.), 166; 169;
185; (504 ff.), 179; (508), 72;
(549 ff.), 174; (571 ff.), 174;
(578), 183; (586 ff.), 164;
(840), 174; (857 f.), 174;
(947), 174; (980 ff.), 178;
(1049 ff.), 160; 171; (1079
ff.), 160; (1113 f.), 172;
(1314 f.), 181; 182; 183;
(1338 f.), 177; (1346 ff.), 182;
184; (1348), 181; (1349 ff.),
174; 181; (1361 ff.), 175;
(1386 f.), 180 n.

Thesm. (81 ff.), 160; (91 f.)
169; (101 ff.), 166; 185;
(130), 170 n.; (184 ff.), 169;
(204 f.), 169; (279 ff.), 169;
177; (289 f.), 164; (293 f.),
169; (340 ff.), 175; (345),
176; (347 f.), 174; (371),
160; (375), 184; (378 f.),
160; (385 ff.), 160; (387),
174; (390 ff.), 185; (395 ff.),
163; 171; 175; (401 f.), 179
n.; (405 f.), 165; (414 ff.),
163; 168; 175; (418 ff.), 177;
(421 ff.), 178; (432), 184;

Aristophanes, *Thesm.* — continued.

(446 ff.), 174; (455 f.), 174;
 (466 ff.), 160; (478 ff.), 168;
 176; (483 ff.), 168; (491 ff.),
 175; (499 ff.), 176; (520 ff.),
 160; (531 f.), 160; (544 ff.),
 160; (556 ff.), 177; (558 f.),
 175 n.; 177; (575 ff.), 169;
 (609), 178; (619), 169; (624),
 169; (658), 169; (691 f.), 178;
 (737 f.), 160, 183 n.; (785 ff.),
 160; 172; (789 ff.), 162; 167;
 (792), 168; (795 f.), 169;
 (797 ff.), 167; (812 f.), 177;
 (822 f.), 181; 183; (834 ff.),
 170; (schol. 834), 170 n.;
 (852 ff.), 176; (910), 174;
 (930 ff.), 169; (1001 ff.), 169;
 (1160 ff.), 160; 177.

Vesp. (397), 73; (497), 174;
 (568 ff.), 166; (610 ff.), 162;
 179 n.; (768 ff.), 167; (805),
 170; (1143 ff.), 183 n.; (1387
 ff.), 174; 185; (1396 ff.), 174;
 (1435), 179 n.

Frag. (10), 162; (18), 176 n.;
 (25), 176 n.; (142), 172;
 (187), 163; (451), 168; (472),
 171; (588), 164; (695), 175;
 (717), 181.

Aristotle, *Meteor.* i (7, 8), 45; iii (2,
 7), 45.

P. A. ii (9, 10), 36.

Prob. xi (23), 45; (51), 44.

Respir. (6), 42.

Rhet. iii (17), 144.

Sens. ii (6), 45.

Arrian, *B. M.* (116), 99.

Caesar, *B. A.* (36), 5.

B. C. iii (99), 96.

B. G. vi (44), 18; vii (51), 96.

Cato, *R. R.* v (4), 116; (6), 113; cxliii,
 16.

Catullus, xvii (15), 100; lxix (1), 121.

Cicero, *Acad.* i (7, 26), 98.

Arch. 10 (25), 100.

Att. xiv (10, 2), 128.

Brut. (329), 109.

Cicero, *Caecil.* (21), 114.

Cael. (8), 114.

Cluent. (18), 88.

Div. ii (73), 133.

Dom. (78), 18.

Fam. xi (1, 2), 18.

Fin. v (18), 16.

Mil. (103), 115.

N. D. ii (25), 19; 35; (37), 4.

Off. i (52), 18; iii (54), 18.

Or. (156), 93.

Phil. i (23), 18; vi (10), 18;

ii (99), 88.

Rep. ii (26), 58.

Rosc. A. (25), 114; (73), 117.

Tusc. iii (8), 140; (14), 147

n. 3; 148; (16), 148 n. 1;

(22), 147 n. 2; (28), 148 n.

2; (32), 147; 148 n. 2.

Verr. ii (149), 117; (5, 50),

88; iii (7), 114; (180), 117.

Cinna, Helvius, *Frag.*, 49.

Cleom. ii (p. 86), 45; 52.

Columella, *Arb.* viii (3), 25 n. 1.

R. R. xii (19, 3), 42.

Const. Porphy. (p. 471, 17), 39.

Curtius, iii (8, 19), 7.

Democritus, *Frag.* (5), 142; (14), 146;

(18), 146; (20), 144; (54),

149; (79), 146; (147), 146.

Demosthenes, iv (1), 81; 81 n.; 86;

ix (6), 78; 82; xv (28), 79;

xviii (190), 88; (195), 81 n.;

85; (199), 79; (248), 78; 84;

xix (124), 77; xxiii (37), 83;

(107), 79; xxiv (146), 81 n.;

84; xxv (61), 19; xxviii (10),

80; xxxiii (37), 78; 81; lvii

(47), 81 n.; lviii (15), 32;

frag. (96), 146.

Dinarchus, ii (9), 19.

Dio Cass. xxxix (45), 18.

Diod. Sic. ii (49, 3), 42; v (37), 53;

(67), 21; xvii (82), 45; *frag.*

xxxviii (7), 60.

Diogenes Laertius, vii (5), 143; ix (7,

12, 45), 140 n. 1.

Diogenianus, vii (15), 18.

- Dionysius Hal. ii (67), 56; 62; iii (67), 62.
 Dionysius Perieg. (780), 49.
 Dioscorides, v (143), 37.
 Diphilus, *Paras. frag.* (3), 18.
 Ennius, ap. Cic. *Div.* i (48), 4.
 ap. Cic. *Off.* i (51), 18; ii (23), 116.
 Epinicus, *Mnes.* i (8), 46.
 Euclid, *El.* xi (def. 18), 63.
Catoptr. (31), 51.
 Euripides, *Alc.* (315), 69.
Cycl. (460), 22.
H. F. (1399), 69.
Hipp. (606), 66.
I. T. (18), 70.
Med. (131), 92; (490), 83; (586), 82; (1320), 73.
Or. (258), 139; (776), 69; 70.
Phoen. (1377), 17; (1590), 72.
Rhes. (115), 69.
Suppl. (1084), 87.
Troad. (982), 69; 70; 71 n.
Frag. (299), 183; (392), 148 n.; (818), 148 n.
 Eustathius ad *Il.* v (5), 54; (p. 1328, 43), 183 n. 2.
 Festus, (p. 108 M.), 27; (344), 62; s.v. *fomites*, 41; *ignis*, 21; *mamphur*, 23.
 Fronto, *Ep.* (2), 108.
 Gaius, *Inst.* i (128), 18.
 Galen, i. (p. 657), 54; (p. 658), 31; 40; xiv (423), 41; *de plac.* Hipp. et Plat. iv (7, p. 418), 148 n.; (419), 143; v (439 f.), 141.
 Gellius, vii (3), 108; xiii (15, 1), 116; xv (2, 3), 28; xvi (5), 7; xviii (7, 3), 28.
 Gracchus, C., ap. Gell. x (3, 3), 116.
 Harpocration, s.v. *ἀρρηφορέω*, 165 n. 1.
 Heracleian Tables, i (105 ff.), 188.
 Herodotus, i (8), 77; (39), 78; 80; 82; 87; ii (69), 46; iv (28), 48; v (79), 69; vi (57), 190 f.; vii (56), 79 f.; (65), 63; (231), 19; viii (6), 18; (37 f.), 60.
 Hesiod, *Op.* (50), 43.
Theog. (563), 15; (565), 43; (567), 21.
 Hesychius, s.v. *ἐμπόρευμα*, 16; *ναρθη-κοπήρωτον*, 43; *πηνίον*, 182 n. 2; *πύρδαλον*, 16; *πυρίτις*, 37; *πυρφόρος*, 18; *στορεύς*, 32.
 Hippocrates, (789 G.), 24.
 Homer, *Il.* i (488), 140; ii (195), 68; xii (schol. A., 137), 187; xvi (128), 68; xviii (8), 68; (104), 140; xxi (364), 42; xxiv (12), 34; (527), 147.
Od. iii (158), 32; v (246), 22; (356), 68; (415), 68; (488), 16; 18; ix (382), 22; xiv (477), 48; xvi (255), 68; xviii (308), 42.
Hymn. Merc. (108), 19; 30; (113), 42.
 Horace, C. i (1, 4), 128; (34, 16), 130; ii (4, 51), 123; iii (18, 15), 130.
C. S. (25), 134.
Epod. xvi (58), 92.
S. i (2, 28), 120; (10, 60), 122; ii (3, 187), 117.
Ep. i (1, 41), 136; (17, 4), 123; (18, 59), 123; ii (2, 109), 119.
A. P. (98), 123; (168), 124; (347), 114; (434), 123; (455), 123.
 Inscriptions, C. I. A. iii (264), 17.
C. I. G. (186, 353), 17; (432, 435), 59; (476, 477, 666, 2155), 165 n. 3.
C. I. L. i (p. 9), 89; (no. 196), 157; (199), 187; vi (5, 3143*), 90; x (1081), 90.
I. R. N. (2096), 90.
S. C. de Bacchan., 112.
 Isaeus, iv (4), 81 n.; vi (44), 79; x (13), 81 n.; 84.

- Isidore, xiv (826), 8; xvi. (3, 1), 37; (4, 5), 37; (13, 1), 49.
- Isocrates, vi (87), 83; xii (71), 80; 83; 84; xv (17), 81; xviii (19), 79; 84; (21), 78; 83.
- Julian, *ad Sol. reg.* (155 A.), 61.
- Juvenal, i (134), 19; v (48 *et schol.*), 43; viii (226), 130; xi. (201), 133; xiii (145), 43; xiv (85), 119; (270), 130.
- Lactantius, *de Ira* (10), 48.
- Leo Phil. ii (1, 3), 108.
- Livy, (*præf.* 3), 128; ii (1, 3), 108; (24, 5), 127; iii (2), 102; (4), 103; (22, 3), 104; (41, 3), 127; (48, 3), 127; iv (24), 105; (37), 102; (43), 102; v (12), 104; vi (24, 3), 109; (39, 6), 110; vii (6), 102; (38), 102; 104; (39), 6; viii (10, 13), 108; (29), 104; ix (2), 6; (41), 104; x (1), 6; xxi (9), 5; (23), 6; (30), 6; (38), 6; (63), 104; xxii (4), 6; (15), 6; (59, 10), 119; xxiv (16, 11), 114; xxvi (25), 6; xxviii (11, 7), 56; xxx (14, 6), 119; xxxi (1), 128; xxxii (5), 7; (21, 32), 114; xxxvii (19, 5), 118; xxxviii (11, 9), 117; xxxix (14, 8), 116; (17, 3), 116; (18, 8), 112; xl (10, 5), 117; xlii (11, 1), 114; 115; (54), 6; (67), 6; xliv (18), 104; (22, 8), 128; (36, 13), 128.
- Lucan, iv (594), 5.
- Lucian, *Hipp.* (2), 54.
Hist. Cons. (19), 48.
Tim. (3), 16.
V. H. i (32), 31.
- Lucilius, v (11), 117; xxviii, 98.
- Lucretius, i (58), 98; (182), 97; (196), 97; (483), 97; (822), 97; (897), 20; ii (688), 97; (912), 98; (981), 98; iii (69), 118; (244), 98; v (953), 15;
- Lucretius — *continued.*
(1096), 20; vi (160), 36; 38; (314), 38; (702), 4.
- Lysias, i (14), 18; iv (13), 81 n.; xii (32), 85; (48), 81 n.; 85; *frag.* (47), 81 n.; (56), 81 n.
- Macrobius, *S.* i (12, 6), 56; ii (8, 4), 28; vi (8), 8.
- Marcellus, *Empir.* (33), 35.
- Martial, *Sp.* (32), 123.
Ep. i (41, 4), 43; (55, 7), 135; (107, 5), 123; ii (1, 9), 135; (34, 3), 127; iv (31, 3), 122; v (19, 11), 136; (25, 7), 136; (78, 31), 191 f.; vi (2, 1), 136; (29, 8), 119; (43, 7), 135; (44, 1), 137; (52, 3), 134; vii (21, 4), 125; (93, 3), 130; ix (8, 1), 136; (28, 2), 125; (39, 1), 122; (81, 3), 119; (101, 19), 135; x (3, 1), 43; xii (57, 14), 43; (82, 9), 137; (84, 1), 120; xiv (91), 127; 135 (2), 136; xv (6), 125.
- Martianus Cap., vi (597), 64.
- Nepos, *Eum.* (9), 119.
- Niceph. Greg. (p. 529 A.), 18.
- Nicol. Dam. *frag.*, 17.
- Nonnus, *Dion.* ii (493), 37; xxxvii (56), 40; (62), 16.
- Novum Testamentum, Matth. xxiii (32), 88.
- Oribasius, iv (p. 156), 24.
- Orphica, *Lapid.* (p. 380), 50; (p. 389), 50.
- Ovid, *Her.* (2, 28), 125; (3, 110), 122; (4, 87), 129; (9, 59), 131; (9, 71 ff.), 138; (9, 75), 124; (11, 109), 125; (12, 4), 125; (12, 164), 125; (12, 186), 123; (12, 210), 132; (15, 350), 132; (16, 169), 128; (17, 95), 123. *Sapph.* (77), 123; (172), 123.
- Am.* i (4, 38), 116; (10, 41), 136; (13, 15), 130; ii (2, 10), 117;

Ovid, *Am.*—*continued.*

- (2, 28), 136; (4, 22), 122;
 (4, 25), 120; (16, 13), 119;
 (17, 23), 133; (17, 29), 119;
 (19, 56), 117; iii (2, 29), 122;
 (2, 63), 126; (6, 9), 129; (7,
 81), 132; (11, 1), 130; (14
 21), 131.
A. A. i (293), 122; (380), 136;
 (405), 131; (428), 129; (733),
 136; ii (20), 136; (98), 123;
 (121), 123; (215), 136; (252),
 131; (583), 126; (609), 119;
 iii. (145), 133; (165), 131;
 (215), 122; (319), 135; (333),
 126; (370), 136; (431), 133;
 (455), 135; (525), 135; (768),
 131.
R. A. (112), 125; (574), 125;
 (626), 136; (735), 118.
Med. Fac. (47), 132.
Met. i (175), 124; ii (564), 126;
 iv (329), 132; v. (225), 126;
 vii (59), 119; (301), 92;
 (712), 118; viii (631), 16;
 (733), 124; x (171), 124;
 (220), 118; xiv (570), 117.
Fast. i (205), 131; (354), 125;
 ii (321), 127; iii (135), 56;
 (282), 131; (696), 129; iv
 (131), 135; (367), 131; (795),
 36; v (689), 129; vi (71),
 119; (230), 135.
Tr. i (1, 50), 131; (5, 4), 122;
 iii (1, 79), 135; (13, 4), 125;
 iv (2, 2), 126; (8, 51), 135;
 v (3, 16), 125; (3, 32),
 126.
Ibis, (11), 135; (348), 125.
Ex Pont. i (3, 45), 136; ii (2,
 124), 135; (6, 14), 132; (6,
 19), 136; iii (1, 9), 115; (4,
 30), 126; (4, 59), 126; (6, 36),
 127; (7, 25), 128; (7, 35),
 136; iv (10, 82), 136.

Paul. Aegin. vi (49), 41.

Pausanias, i (27, 3), 165 n. 1; ix (7,
 4), 60; x (5), 60; (29), 147.

- Persius, i (41), 119; (91), 119; (131),
 135; ii (66), 135; iv (7), 134;
 (17), 136; v (33), 135; vi (3),
 134; (6), 135; (15), 124;
 (76), 134.
 Petronius, (136), 18.
 Phaedrus, iii (19), 18.
 Philemon, *Lex.* (248), 47.
 Philo, i (t. 2, p. 109, 34), 18.
 Philostratus, *Imag.* ii (24), 37.
 Philyll. ap. Poll. vii (192), 33.
 Photius, s.v. *πυρρόπος*, 18.
 Pindar, *Nem.* (7, 14), 51.
 Plato, *Alc.* i (119 B), 81 n.
Apol. (17 D), 87.
Crat. (414 C), 32; (425 B), 67;
 (435 C), 68 n.
Crit. (48 C), 68 n.; (52 C), 84.
Euthyd. (272 C), 69; 70.
Gorg. (514 A), 81 n.
Legg. (677 B), 16; (861 E), 70.
Men. (94 E), 69.
Parm. (163 D), 69.
Phaed. (64 C), 69.
Phileb. (46), 140 n. 2; (48 D),
 68; 71.
Prot. (343 D), 32.
Rep. (328 C), 81 n.; (341 B),
 68; (435 A), 30; (474 D), 84;
 (479 D), 78; (603 C), 69.
Symp. (193 B), 69; (220 B), 48;
 (387 C), 69.
Theaet. (169 E), 81 n.
Tim. (53 C), 64; (61 B), 46.
 Plautus, *Amph.* (33), 114; (534), 100;
 (608), 124.
Aul. (90), 124; (91), 18; (618),
 124; (781), 192; (828), 125.
Bacch. (939), 192; (1037), 72.
Curc. (278), 192.
Men. (994), 124.
Mil. (789), 192.
Most. (1165), 130.
Poen. (570), 115; (872), 116;
 (1157), 113; (1206), 115.
Pseud. (282), 130; (662), 115.
Rud. (766), 18.
Trin. (347), 131; (iii, 2, 53), 18.
Truc. (47), 153.

- Pliny, *N. H.* ii (113), 37; (239), 19; 51; iii (1), 5; iv (66), 28 n.; v (35), 45; vi (*praef.*), 29; (188), 15; vii (198), 22; 35; 43; xiii (122), 43; xiv (98), 30; xvi (207), 27; (208), 40; xvii (223), 41; xxiv (124), 26; xxxiii (81), 47; (128), 50; xxxiv (160), 50; xxxv (177), 40; xxxvi (137), 37; (138), 17; 40; (193), 50; (196), 51 (*bis*); (199), 48; xxxvii (23), 49; (28), 49; (31), 47.
- Pliny, *Ep.* ii (17, 17), 45; vi (29, 11), 132.
- Plutarch, *Mor.* (p. 538 A), 19; (651 B), 42; (897 D), 45; (953 E), 48.
- Adv. Colot.* (32), 139.
- An Seni sit ger.* (9), 139.
- Anim. aut corp. aff. sint peior.* (3), 139.
- Aqua aut ig. util.* (2, 3), 15.
- Arist.* (20), 60.
- Cam.* (20), 58; (31), 61.
- Cap. ex. inim. util.* (2), 143.
- Cons. ad Apoll.* (21), 148; (33), 147 n. 3.
- Cohib. ira.* (16), 147 n. 3.
- Cor.* (10), 99.
- Curios.* (1), 144 n.
- Exil.* (1), 148; (4), 147; (11), 143.
- Fac. in orb. lunae.* (7), 143; (23), 151.
- Inst. Lac.* (240 A), 16.
- Numa.* (9), 58, (10), 62.
- Plac. phil.* (2, 20), 45; (4), 139.
- Profect. in virt.* (6), 146.
- Seips. citr. inv. laud.* (16), 146.
- Sulla.* (12), 60; (13), 59.
- Virt. et vit.* (2), 146; (4), 141.
- Virt. Moral.* (12), 146.
- Pollux, iv (102), 185 n.; vii (32), 182 n. 1; (133), 24; x (146), 23; (149), 33.
- Pomponius Mela, iii (9), 15.
- Posidonius ap. Gell., 148.
- Priapeia, (63, 6), 48.
- Priscian, i (366 H.), 89; xii (594 K.), 192; (406), 113.
- Propertius, i (7, 15), 119; iii (7, 22), 130; iv (4, 19), 128; (12, 20), 130.
- Quintilian, i (4, 16), 91 f.; (4, 27), 90 f.; (5, 13), 92; (6, 18), 90; iii (1, 22), 132; viii (3, 25), 154.
- Sallust, *J.* (31, 27), 115.
- Seneca, *Ben.* ii (27, 4), 145; iv (13), 140.
- Epist.* (24, 22), 149.
- Marc. de consol.* (9), 148, (12 f.), 143.
- Otio.* (3, 2), 140.
- Polyb. de consol.* (11), 147 n. 3; (14), 143.
- Q. N.* i (1, 8), 43 n. 1; (6, 5), 46; ii (22), 19; 20; 31.
- Tranq.* i (10), 149; iii (1), 149; iv (5), 145; vii (2), 149; x (1, 2, 4), 142; (5), 146; xii (1), 146; xiv (3), 143; 149.
- Serv. ad Verg. *Aen.* i (176), 41; vi (79), 111.
- Simplicius *ad Arist. Cacl.* iii (3, 3), 31.
- Solinus, (1, 35), 56; (11, 19), 28; (15, 29), 49 n.; (15, 31), 49.
- Sophocles, *Aj.* (560), 66.
- El.* (1029), 66; 70; (1052), 66; 72; (1505), 78 n.
- O. T.* (221), 87 n.; (255), 79; 85.
- Phil.* (35), 35; (295), 19; 35; 36; (381), 66; 70; 73; (611), 72.
- Tr.* (704), 63; (1183), 75.
- Frag.* 30; (206), 42.
- Statius, *Silv.* i (6, 73), 43.
- Stobaeus, *Ecl.* i (26), 45; ii (p. 199), 148.
- Flor.* i (40), 144; v (67), 145.
- Strabo, (p. 717), 49; (p. 779), 45.
- Suidas, s.v. *ἐμπόρευμα*, 16; *ἐναβειν*, 19; *ῥσκα*, 41; *πηγλον*, 182 n. 2; *τυρεία*, 31; *τυρφόρος*, 18; *ὑδλη*, 47.
- Synesius, *de reg.* (31 C), 16.

- Tacitus, *Ann.* i (13, 1), 109; (73), 132; iii (70, 4), 107 ff.; (75, 1), 110; iv (6, 2), 108; vi (7, 1), 108.
Dial. (24), 118.
Hist. i (10), 108; (45), 108.
 Terence, *Ad.* (180), 128; (260), 192; (389), 192; (458), 124; (519), 115.
Andr. (205), 72; (239), 125; (855), 192; 193.
Heaut. (536), 125; (560), 116.
 Theo, *ad Ptolem.* (p. 10), 55.
 Theocritus, vii (57), 32; xi (41 *schol.*), 23; xxii (32), 30; xxiv (87), 42.
 Theophrastus, *H. P.* v (9), 39; (9, 6), 25 f.
Ig. (1), 30; (29), 30; 42; (63), 36; 41; (64), 25; (73), 42; 48; 51.
Sens. (36), 45.
 Thucydides, i (38), 80; 84; (74), 81 n.; iii (23), 48.
 Tibullus, i (1, 29), 131; (1, 45), 129; (1, 73), 129; (2, 27), 133; (2, 93), 132; (4, 55), 122; (6, 51), 132; (6, 63), 119; (6, 73), 118; (8, 7 f.), 138; (9, 29), 130; iii (5, 31), 114; (6, 63), 125; iv (4, 3), 132; (6, 6), 119.
 Tzetzes, *Chil.* ii (118), 54; (149), 54; xii (973), 55.
 Ulpian, *Dig.* xlii (1, 15), 128.
 Varro, *L. L.* (p. 513), 21.
R. R. i (13, 7), 108; (4), 100.
 Varro, *Ap. Non.* (p. 394), 116.
 Vergil, *Aen.* i (174), 36; 40; ii (586), 129; iii (282), 129; (606), 129; vi (79), 126; (241), 5; (273), 5; 7; vii (233), 132; (569), 5; x (94), 125; xi (516), 5; (525), 5; xii (687), 95.
Georg. i (119), 95; (135), 36; (145), 95; (207), 5; iii (525), 129; iv (427), 5; (467), 5.
Ciris, (463), 6.
Moret. (8), 16.
Catalect. (2, 10), 100.
 *Vitruvius, i (1, 3), 157; (1, 7), 154; (1, 14), 154; (1, 17), 153; (2, 5), 153; (3, 7), 154; ii (1, 8), 158; (6, 4), 157; (8, 18), 157; (9, 15), 158; iii (1, 4), 154; iv (2, 1), 157; vi (1 ff.), 2 ff.; vii (*prae*f. 14), 154; (5, 4), 157; viii (3, 11), 154; (7, 1), 157; ix [2] (2), 154; (3, 18), 157; (4, 13), 157; (5, 1), 157; (9, 1), 63.
 Vulgate, *Exod.* xxvii (3), 27; *P.* cii (3), 42.
 Xenophon, *A.*, i (4, 4), 7.
Cyr. ii (2, 15), 30.
Hell. i (6, 32), 72.
Mem. ii (1, 25), 65; (2, 12), 18; iv (2, 12), 69.
Oec. 2 (15), 18.
R. L. 13 (2, 3), 17.
Symp. 4 (25), 42.
 Zenobius, v (34), 17.
 Zonaras, *Epi.* xiv (3), 55.

* The 118 passages in which *quemadmodum* occurs are not indexed; see p. 154 ff.

GINN & CO.'S CLASSICAL PUBLICATIONS.

LATIN.

- ALLEN & GREENOUGH'S **Latin Grammar**. Revised and enlarged. Copyright edition of 1888. 12mo. Half morocco. xiii + 488 pages. Mailing Price, \$1.30; Introduction, \$1.20.
- ALLEN (J. H.). **New Latin Method**. 12mo. Cloth. 263 pages. Mailing Price, \$1.00; Introduction, 90 cents.
- **Latin Primer**. 12mo. Cloth. 179 pages. Mailing Price, \$1.00; Introduction, 90 cents.
- **Latin Lexicon**. With Supplementary Tables of Dates, Antiquities, etc. 12mo. Cloth. 216 pages. Mailing Price, \$1.00; Introduction, 90 cents.
- ALLEN (J. H. & W. F.). **Latin Reader**. Selections from Cæsar, Nepos, Curtius, Sallust, Ovid, Virgil, Plautus, Terence, Cicero, Pliny, and Tacitus. 12mo. Half morocco. 542 pages. Mailing Price, \$1.55; Introduction, \$1.40.
- ALLEN (W. F.). **Introduction to Latin Composition**. With references to the Grammars of Allen & Greenough, Gildersleeve, and Harkness. 12mo. Cloth. 183 pages. Mailing Price, \$1.00; Introduction, 90 cents.
- **Germania and Agricola of Tacitus**. 12mo. Cloth. 142 pages. Mailing Price, \$1.10; Introduction, \$1.00.
- ALLEN (F. D.). **Remnants of Early Latin**. Chiefly inscriptions. 12mo. 106 pages. Mailing Price, 80 cents; Introduction, 75 cents.
- ALLEN & GREENOUGH. **New Cæsar**. Books I.–VII. Military Notes by Prof. H. P. Judson. Special Vocabulary by Professor Greenough. Illustrated. Six double-page colored maps. 12mo. Half morocco. Mailing Price, \$1.35; Introduction, \$1.25.
- **New Cicero**. Thirteen Orations: Pro Sex. Roscio, In Verrem, Pro Lege Manilia, IV in Catilinam, Pro Archia, Pro Sestio, Pro Milone, Pro Marcello, Pro Ligario, and XIVth in M. Antonium. Special Vocabulary by Professor Greenough. 12mo. Half morocco. Mailing Price, \$1.40; Introduction, \$1.25.
- **Latin Composition**. An Elementary Guide to Writing in Latin. 12mo. Cloth. 194 pages. Mailing Price, \$1.25; Introduction, \$1.12.
- **Preparatory Course of Latin Prose**. Four Books of Cæsar and Eight Orations of Cicero. 12mo. Half morocco. 518 pages. Mailing Price, \$1.55; Introduction, \$1.40.
- **Sallust's Catiline**. 12mo. Cloth. 96 pages. Mailing Price, 65 cents; Introduction, 60 cents.
- **Cicero De Senectute**. 12mo. Cloth. 67 pages. Mailing Price, 55 cents; Introduction, 50 cents.
- **Ovid**. With Special Introductions, Notes, and Index of Proper Names. 12mo. Half morocco. 292 pages. With Vocabulary: Mailing Price, \$1.55; Introduction, \$1.40. Without Vocabulary: Mailing Price, \$1.25; Introduction, \$1.12.
- BLACKBURN. **Essentials of Latin Grammar**. 12mo. Cloth. 160 pages. Mailing Price, 75 cents; Introduction, 70 cents.
- **Exercises Preparatory to Cæsar's Gallic War**. Prepared to accompany and illustrate the *Essentials*. 12mo. Cloth. 120 pages. Mailing Price, 65 cents; Introduction, 60 cents. The *Essentials* and the *Exercises* bound together: Mailing Price, \$1.10; Introduction, \$1.00.
- COLLAR & DANIELL. **The Beginner's Latin Book**. Complete with Grammar, Exercises, Selections for Translation, and Vocabulary. 12mo. Cloth. xii + 283 pages. Mailing Price, \$1.10; Introduction, \$1.00.
- COLLAR. **Heatley & Kingdon's Gradatim**. An easy translation book for beginners. Revised for American schools. 16mo. Cloth. vii + 139 pages. Mailing Price, 45 cents; Introduction, 40 cents.
- **Practical Latin Composition**. With Selections from De Viris Illustribus, Nepos, Cæsar, and Cicero, which form the basis of the exercises for Latin Writing. 12mo. Cloth. x + 268 pages. Mailing Price, \$1.10; Introduction, \$1.00.
- CROWELL. **Selections from the Latin Poets**. Catullus, Lucretius, Tibullus, Propertius, Ovid, and Lucan. 12mo. Cloth. 300 pages. Mailing Price, \$1.55; Introduction, \$1.40.

- CROWELL. Catullus.** From the *Selections*. With Additions. 12mo. Paper. ii + 55 pages. Introduction Price, 20 cents.
- CROWELL & RICHARDSON. A Brief History of Roman Literature.** Translated and edited from the German Edition of Bender. 12mo. Cloth. xxii + 152 pages. Mailing Price, \$1.10; Introduction, \$1.00.
- FERGUSON. Questions on Cæsar and Xenophon.** 12mo. Cloth. iv + 283 pages. Mailing Price, \$1.25; Introduction, \$1.12.
- GINN & COMPANY. Classical Atlas.** Revised in 1885 by eminent British and American Scholars. 7½ × 12 inches. Cloth. Mailing Price, \$2.30; Introduction, \$2.00.
- GREENOUGH. Virgil. Bucolics, and First Six Books of the Æneid.** With Notes and Vocabulary. 12mo. Half morocco. xv + 773 pages. Mailing Price, \$1.75; Introduction, \$1.60. Also published in other combinations.
- **Satires and Epistles of Horace.** In the *College Series of Latin Authors*. 12mo. Cloth. xiv + 306 pages. Mailing Price, \$1.35; Introduction, \$1.25. *Text Edition.* Paper. 145 pages. Introduction Price, 20 cents.
- HALE. Aims and Methods in Classical Study.** 12mo. Paper. 47 pages. Mailing and Teachers' Price, 20 cents.
- **The Art of Reading Latin: How to Teach It.** 12mo. Paper. 74 pages. Mailing Price, 25 cents.
- HALSEY. An Etymology of Latin and Greek.** With a Preliminary Statement of the New System of Indo-European Phonetics, and Suggestions in regard to the Study of Etymology. 12mo. Cloth. 272 pages. Mailing Price, \$1.25; Introduction, \$1.12.
- KELLOGG. The Brutus of Cicero.** In the *College Series of Latin Authors*. 12mo. Cloth. xxix + 196 pages. Mailing Price, \$1.35; Introduction, \$1.25. *Text Edition:* Paper. 118 pages. Introduction Price, 20 cents.
- KING. Latin Pronunciation.** A Brief Outline of the Roman, Continental, and English Methods. 12mo. Cloth. 24 pages. Introduction Price, 25 cents.
- LEIGHTON. First Steps in Latin.** A Complete Course in Latin for one year. 12mo. Half morocco. 518 pages. Mailing Price, \$1.25; Introduction, \$1.12.
- **Latin Lessons.** Prepared to accompany Allen & Greenough's Latin Grammar. Containing also references to the Grammars of Andrews & Stoddard, Harkness, and Gildersleeve. 12mo. Half morocco. xviii + 357 pages. Mailing Price, \$1.25; Introduction, \$1.12.
- PARKHURST. Latin Verb.** Illustrated by the Sanskrit. 12mo. Cloth. 55 pages. Mailing Price, 40 cents; Introduction, 35 cents.
- PREBLE. Adelphoe of Terence.** With stage directions. 12mo. Paper. 56 pages. Mailing Price, 30 cents; Introduction, 25 cents.
- PREBLE & PARKER. Handbook of Latin Writing.** One hundred exercises for continuous Latin Writing, with Introductory Remarks and Suggestions. 12mo. Cloth. 105 pages. Mailing Price, 55 cents; Introduction, 50 cents.
- SHUMWAY. Handbook of Latin Synonymes.** Based on Meissner's *Kurze fasste Lateinische Synonymik*. Square 16mo. Leatherette, flexible. 60 pages. Introduction Price, 30 cents.
- STICKNEY. Cicero De Natura Deorum. Libri Tres,** with the Commentary of G. F. Schoemann. 12mo. Cloth. 348 pages. Mailing Price, \$1.55; Introduction, \$1.40.
- TETLOW. Inductive Latin Lessons.** 12mo. Half morocco. xi + 340 pages. Mailing Price, \$1.25; Introduction, \$1.12.
- THACHER. Madvig's Latin Grammar.** 12mo. Half morocco. 515 pages. Mailing Price, \$2.50; Introduction, \$2.25.
- TOMLINSON. Selections from Latin Authors for Sight Reading.** 12mo. Cloth. xvi + 237 pages. Mailing Price, \$1.10; Introduction, \$1.00.
- **Manual for the Study of Latin Grammar.** References to the grammars of Allen & Greenough, Gildersleeve, and Harkness. Paper. 20 cents.
- WHITE. Latin Lexicons.** Latin-English, \$1.75; Latin-English and English-Latin, \$3.00; English-Latin, \$1.50.
- WHITON. Auxilia Vergiliana; or, First Steps in Latin Prosody.** 12mo. Paper. iv + 18 pages. Mailing Price, 20 cents; Introduction, 15 cents.
- **Six Weeks' Preparation for Reading Cæsar.** 18mo. Cloth. 107 pages. Mailing Price, 45 cents; Introduction, 40 cents.

GREEK.

- ALLEN.** *The Medea of Euripides.* 12mo. Cloth. 141 pages. Mailing Price, \$1.10; Introduction, \$1.00.
- BECKWITH.** *The Bacchantes of Euripides.* Edited on the basis of Wecklein's edition. Square 8vo. 146 pages. Cloth: Mailing Price, \$1.35; Introduction, \$1.25. Paper: \$1.00 and 95 cents. *Text Edition:* 64 pages. Paper: Mailing Price, 25 cents; Introduction, 20 cents.
- D'OOGÉ.** *The Antigone of Sophocles.* Edited on the basis of Wolff's edition. Square 8vo. 196 pages. Cloth: Mailing Price, \$1.50; Introduction, \$1.40. Paper: \$1.20 and \$1.10. *Text Edition:* 59 pages. Paper: 25 cents and 20 cents.
- DYER.** *The Apology and Crito of Plato.* Edited on the basis of Cron's edition. Square 8vo. 204 pages. Cloth: Mailing Price, \$1.50; Introduction, \$1.40. Paper: \$1.20 and \$1.10. *Text Edition:* 50 pages. Paper: 25 cents and 20 cents.
- FLAGG.** *Anacreontics.* Square 16mo. 41 pages. Mailing Price, 40 cents; Introduction, 35 cents.
- *Hellenic Orations of Demosthenes. Symmories, Megalopolitans and Rhodians.* 12mo. 103 pages. Mailing Price, \$1.10; Introduction, \$1.00.
- *The Seven against Thebes of Æschylus.* xii + 129 pages, with a sketch-map of Thebes. Cloth. Mailing Price, \$1.10; Introduction, \$1.00.
- *Euripides' Iphigenia among the Taurians.* Square 8vo. Cloth. iv + 197 pages. Cloth: Mailing Price, \$1.50; Introduction, \$1.40. Paper: \$1.20 and \$1.10. *Text Edition:* 72 pages. Paper: 25 cents and 20 cents.
- FOWLER.** *Thucydides, Book V.* Edited on the basis of Classen's edition. Square 8vo. 213 pages. Cloth: Mailing Price, \$1.50; Introduction, \$1.40. Paper: \$1.20 and \$1.10. *Text Edition:* 67 pages. Paper: 25 cents and 20 cents.
- GOODWIN'S Greek Grammar.** Revised and Enlarged Edition. 12mo. Half morocco. 425 pages. Mailing Price, \$1.65; Introduction, \$1.50.
- *Greek Reader.* 12mo. Half morocco. 384 pages. Mailing Price, \$1.65; Introduction, \$1.50.
- *Greek Moods and Tenses.* Seventh Edition. 12mo. Cloth. 279 pages. Mailing Price, \$1.65; Introduction, \$1.50.
- GOODWIN & WHITE.** *First Four Books of Xenophon's Anabasis.* With an Illustrated Vocabulary. 12mo. Half morocco. 355 pages. Mailing Price, \$1.65; Introduction, \$1.50. *Without Vocabulary:* \$1.10 and \$1.00.
- *Selections from Xenophon and Herodotus.* 12mo. Half morocco. vii + 397 pages. Mailing Price, \$1.65; Introduction, \$1.50.
- HARDING.** *Greek Inflection.* 12mo. Cloth. 54 pages. Mailing Price, 55 cents; Introduction, 50 cents.
- HOGUE.** *Irregular Verbs of Attic Prose.* Their Forms, Prominent Meanings, and Important Compounds. Together with Lists of Related Words and English Derivatives. 12mo. Cloth. xii + 268 pages. Mailing Price, \$1.65; Introduction, \$1.50.
- HUMPHRIES.** *The Clouds of Aristophanes.* Edited on the basis of Kock's edition. Square 8vo. 252 pages. Cloth: Mailing Price, \$1.50; Introduction, \$1.40. Paper: \$1.20 and \$1.10. *Text Edition:* 88 pages. Paper: Mailing Price, 25 cents; Introduction, 20 cents.
- JEBB.** *Homer.* An Introduction to the Iliad and Odyssey. 12mo. Cloth. xii + 202 pages. Mailing Price, \$1.25; to Teachers, \$1.12.
- KENDRICK.** *Greek at Sight.* Extracts from twelve authors. Paper. 12mo. 26 pages. Mailing and Introduction Price, 15 cents.
- LEIGHTON.** *New Greek Lessons.* With references to Hadley's Greek Grammar as well as to Goodwin's New Greek Grammar. 12mo. Half morocco. Mailing Price, \$1.30; Introduction, \$1.20.
- LIDDELL & SCOTT.** *Unabridged Greek-English Lexicon.* The seventh and last Oxford Edition. 4to. Sheep. 1782 pages. Mailing Price, \$10.00; Introduction, \$9.40.
- *Abridged Greek-English Lexicon.* Seventeenth Edition. With Appendix of Proper and Geographical Names, by J. M. WHITON. Square 12mo. 835 pages. Morocco back. Mailing Price, \$2.10; Introduction, \$1.90.
- MANATT.** *Xenophon, Hellenica, Books I.-IV.* Edited on the basis of the edition of Büchschütz. Square 8vo. 300 pages. Cloth: Mailing Price,

- \$1.75; Introduction, \$1.65. Paper: \$1.45 and \$1.35. Text Edition: 138 pages.**
 Paper: Mailing Price, 25 cents; Introduction, 20 cents.
- MORRIS. Thucydides, Book I.** Edited on the basis of Classen's edition. Square 8vo. 353 pages. Cloth: Mailing Price, \$1.75; Introduction, \$1.65. Paper: \$1.45 and \$1.35. Text Edition: 91 pages. Paper: 25 cents and 20 cents.
- PARSONS. Cebes' Tablet.** With Introduction, Notes, Vocabulary, and Grammatical Questions. 12mo. Cloth. 94 pages. Mailing Price, 85 cents; Introduction, 75 cents.
- PERRIN. Odyssey, Books I.-V.** Edited on the basis of the Ameis-Hentze edition. Square 8vo. 230 pages. Cloth: Mailing Price, \$1.50; Introduction, \$1.40. Paper: \$1.20 and \$1.10. Text Edition: 75 pages. Paper: Mailing Price, 25 cents; Introduction, 20 cents.
- RICHARDSON. Aeschines against Ctesiphon.** Edited on the basis of Weidner's Edition. Square 8vo. iv + 279 pages. Cloth: Mailing Price, \$1.50; Introduction, \$1.40. Paper: \$1.20 and \$1.10. Text Edition: 78 pages. Paper: Mailing Price, 25 cents; Introduction, 20 cents.
- SEYMOUR. Introduction to the Language and Verse of Homer.** Square 8vo. 104 pages. Cloth: Mailing Price, 80 cents; Introduction, 75 cents. Paper: 65 cents and 60 cents.
- **Homer's Iliad, Books I.-III.** Edited on the basis of the Ameis-Hentze edition. Square 8vo. 235 pages. Cloth: Mailing Price, \$1.50; Introduction, \$1.40. Paper: \$1.20 and \$1.10. Text Edition: 66 pages. Paper: Mailing Price, 25 cents; Introduction, 20 cents.
- **Homer's Iliad. Books I.-III.** With Introduction, Commentary, and Vocabulary, for the Use of Schools. Square 8vo. Half morocco. 371 pages. Mailing Price, \$1.35; Introduction, \$1.25. Books I.-VI.: 478 pages. Mailing Price, \$1.75; Introduction, \$1.60.
- **Homeric Vocabulary.** A Concise Vocabulary to the First Six Books of Homer's Iliad. Square 8vo. x + 105 pages. Cloth. Mailing Price, 80 cents; Introduction, 75 cents.
- **Selected Odes of Pindar.** With Notes and an Introduction. The Text is that of Bergk's Fourth Edition, and the Metrical Schemes are according to Schmidt's *Kunstformen der Griechischen Poesie*. 12mo. Cloth. 300 pages. Mailing Price, \$1.55; Introduction, \$1.40.
- SIDGWICK. Greek Prose Composition.** 12mo. Cloth. 280 pages. Mailing Price, \$1.65; Introduction, \$1.50.
- SMITH. Thucydides, Book VII.** Edited on the basis of Classen's edition. Square 8vo. 202 pages. Cloth: Mailing Price, \$1.50; Introduction, \$1.40. Paper: \$1.20 and \$1.10. Text Edition: 68 pages. Paper: 25 cents and 20 cents.
- TARBELL. Philippics of Demosthenes.** 12mo. Cloth. 138 pages. Mailing Price, \$1.10; Introduction, \$1.00.
- TOWLE. Protagoras of Plato.** Edited on the basis of Sauppe's edition, with additions. Square 8vo. 175 pages. Cloth: Mailing Price, \$1.35; Introduction, \$1.25. Paper: \$1.05 and 95 cents. Text Edition: 69 pages. Paper: Mailing Price, 25 cents; Introduction, 20 cents.
- TYLER. Selections from the Greek Lyric Poets.** With an Historical Introduction and Notes for the student's use. 12mo. Cloth. 184 pages. Mailing Price, \$1.10; Introduction, \$1.00.
- WHITE. First Lessons in Greek.** 12mo. Half morocco. x + 286 pages. Mailing Price, \$1.30; Introduction, \$1.20.
- **Passages for Practice in Translation at Sight. Part IV. — Greek.** For Use in Colleges. With a brief Introduction on the Art of Reading at Sight. Square 12mo. Cloth. xviii + 181 pages. Mailing Price, 90 cents; Intro., 80 cents.
- **Œdipus Tyrannus of Sophocles.** 12mo. Cloth. 219 pages. Mailing Price, \$1.25; Introduction, \$1.12.
- **Schmidt's Rhythmic and Metric of the Classical Languages.** Designed as a Manual for Classes in the Greek and Latin Poets. 8vo. Cloth. 204 pages. Mailing Price, \$2.65; Introduction, \$2.50.
- **Stein's Summary of the Dialect of Herodotus.** Paper: 10 cents.
- WHITON. Orations of Lysias.** 12mo. Cloth. vii + 151 pages. Mailing Price, \$1.10; Introduction, \$1.00.

Send for our Complete Catalogue.



3 2044 019 265 040

